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INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Correcting the Records
It's Just This Simple
Business Statesmanship
Here's One Answer

Story of the Week

After seating an elderly farmer in the witness box, the plaintiff's lawyer began machine-gunning questions at him.

"What reputation did the defendant have in your neighborhood as to his sincerity and truthfulness?" he shot at the farmer.

"Wal," came the reply, "I ain't sayin' he warn't honest, but when it come time to feed his hogs, he allus had to git someone else to do the callin' for him."

Correcting the Records

The history of electric cooking was somewhat confused by a recent news story recounting a correspondence between Henry Ford and George A. Hughes, the inventor of the electric range.

The widely circulated story mistakenly said that in 1941 "a gold stove commemorating the 50th anniversary of the invention" was placed in the Edison Institute, Greenfield Village. Actually, a gold trimmed range, No. 1,000,000 manufactured by Hotpoint Inc., the company headed by the inventor, was placed beside the "first electric range," previously presented to the Institute.

An old timer at Hotpoint relates that directors of the Institute had originally rejected Mr. Hughes' offer of the millionth range in fear that it might result in an advertising stunt. When re-assured on that point, a Ford official accepted the exhibit.

Because no public mention was made of the gift, even though the electric industry was conducting numerous ceremonies marking progress, Mr. Ford was pleasantly surprised when he discovered the presence of the gold trimmed range.

The first "commercially successful electric range" was made in Chicago in 1909 and exhibited at a convention at St. Louis. Sufficient interest was excited to cause its inventor, George A. Hughes, to return to Chicago and set up a garret shop to produce them. Later, when the Hughes business had become national, a merger of the Hotpoint company, electric iron makers, and General Electric company's heating appliance division with the Hughes company resulted in the Edison General Electric Co.

Last January the firm name was changed to Hotpoint Inc. and more recently the company announced the construction of a new range plant that will produce 600,000 electric ranges annually.

It's Just This Simple

An atomic research expert from famed John Hopkins University recently tried to tell us what nuclear physicists are doing when they employ the gigantic cyclotron machine in their efforts to discover what an atom is.

He tried to explain it to some of us untutored individuals with the following allegory:

"It is a dark night. There is a small opening in a big barn, which is located in a field. An animal is in this barn. Through the opening, you try to hit the animal with a tennis ball. After throwing a few million tennis balls, you finally manage to toss a few of them through the hole. In time, one of these thrown balls will bounce off the animal, and then bounce back out through the hole.

"By smelling the tennis ball, you try to guess what kind of animal resides in the barn."

(Concluded on Page 6, Column 1)

Own & Use Freezers If You Want To Sell Them, San Diego Conferees Are Advised

SAN DIEGO, Calif.—"All of us who wish to sell home freezers successfully should make sure we have freezers in our own homes so that we can know from actual experience what we are talking about," Roger B. Trick, manager of home freezer sales for Kelvinator, told the 500 members of the electrical appliance industry gathered here June 2 for the Annual Spring Conference of the Bureau of Radio and Electrical Appliances.

Mr. Trick likened the present sales potential of the home freezer to that of the electric refrigerator in 1925. Because few people in those days really understood a refrigerator or what it would do for them, manufacturers, distributors, and retailers became its first buyers in order to become acquainted with its many advantages, he said.

"You cannot depend upon advertising or sales promotion material entirely to take the place of the spoken word. To do the most effective job, you should be in a position to relate many of the varied uses to which a home freezer is put. It will be necessary to cultivate a group of enthusiastic users by calling back on them frequently.

"Not long ago we compiled for a survey a total of 91 different home freezer uses. Everyone who has seen this list has had his eyes opened when confronted with all the advantages that a home freezer offers."

In reviewing the history of the frozen foods industry since its inception in 1930, Mr. Trick emphasized the importance of locker plant operation in stimulating home freezer interest.

"As the locker plant and frozen food business has expanded, home freezers have been publicized. The locker plant has pre-sold many thousands of people on the quality of frozen foods vs. the old method of canning, or preserving through other means.

"Those of you who handle the

(Concluded on Page 36, Column 1)

Credit Restriction End May Come Very Suddenly

WASHINGTON, D. C.—Two statements made last week seemed to indicate that Regulation W is headed for the ashcan.

1. Marriner Eccles, chairman of the Federal Reserve Board, told the House Banking and Currency committee he had recommended to President Truman that consumer credit controls be dropped unless congressional committees approve legislation extending them.

2. Rep. Jesse Wolcott, chairman of the House committee, said that group probably will recommend legislation to halt credit regulation.

(One press report said some committee members believe Mr. Eccles committeed himself to dropping the credit controls immediately, if such legislation is approved by the committee. The report added that "this would mean ending of the controls considerably in advance of the time that the legislation could pass both houses and become law.")

A measure providing for permanent controls over consumer credit has been sent to both the Senate and House banking committees by the Federal Reserve Board. Mr. Eccles explained that this bill would allow controls to be varied depending on economic conditions to restrain "the development of unsound credit terms and with a view to preventing or reducing excessive expansion or contraction of consumer instalment credit."

Regulation W, Mr. Eccles argued, has held down to some extent the expansion of consumer credit. However, he noted, instalment financing has expanded by more than $2,000,000,000 in the past year.

(Concluded on Page 4, Column 5)

Airtemp Led '46 Advertising of Air Conditioning

York, G-E, Carrier and Frigidaire Were Other Top-Flight Spenders

DETROIT — A recent survey of 1946 expenditures for national magazine advertising by 16 manufacturers of air conditioning and heating equipment shows Airtemp Division of Chrysler Corp. edged out York Corp. for first place by a margin of $4,507.

Airtemp paid out $159,230, as compared with $154,723 (including refrigeration advertising) spent by York. Of the Airtemp total, $99,800 was expended for heating advertising and $59,430 for air conditioning advertising.

Immediately behind Airtemp and York in advertising volume were General Electric Co. ($121,645), Carrier Corp. ($115,129), and Frigidaire Division of General Motors Corp. ($84,260).

(A break-down of the expenditures by companies and magazines is on page 4.)

Kelvinator Raises Refrigerator Price

DETROIT—Because of rising production costs, Nash-Kelvinator Corp. has increased refrigerator retail prices, effective June 16, $10 on five Kelvinator models and $15 on one model. The increase averages less than 5%.

The announcement said the adjustment was necessitated by recent wage increases equivalent to approximately 15 cents an hour in all corporation plants, and by steadily rising costs of parts and material.

6 Innovations Mark 10-ft. Hotpoint Box

CHICAGO — Six innovations that are "completely 1947" are incorporated in the recently introduced 10-cu. ft. model Hotpoint electric refrigerator, in addition to an exterior style that features graceful fluting.

The speed freezer has a capacity of almost 1 cu. ft. Thirty-one pounds of frozen food can be kept at temperatures as low as -13°, it is claimed. A flexi-cold storage compartment is adjustable to several positions for perfect refrigeration of meat.

Additional storage space for bottles is provided by the removable

(Concluded on Page 30, Column 3)

See Prices Holding On Air Conditioning

NEW YORK CITY—Manufacturers of air conditioning equipment, together with a majority of executives in other industrial fields, believe there can be no important price reductions before the end of the year, according to a survey by the National Industrial Conference Board.

The survey indicated June 5 that manufacturers of primary products and metal products do not expect price declines this year, while about one-quarter indicated that increases may be unavoidable. Makers of other products, the survey found, are more inclined to look for a drop in price levels which would be of modest proportions in most instances.

The study report observed that there is little evidence of belief that demand would be stimulated by lower prices. Some producers indicated they are fully booked for a long period ahead, while others felt that declines might depress demand by resulting in more cautious buying policies and expectations of further price cuts.

Industries estimating no price change included mining, petroleum, steel, paper, wool, air conditioning equipment, office equipment, and hardware.

Food product officials generally look for lower prices, while foundries, electrical machinery, and suppliers look for higher prices.

Frigidaire Raises Prices 3 to 4%

DAYTON — Frigidaire Division, General Motors Corp., announced June 9 an adjustment in the price of some of its products to compensate for recent increases in labor and material costs.

"We make this announcement reluctantly and with genuine regret," stated P. M. Bratten, general sales manager, "as we had hoped it would not be necessary to take this step even though our prices had not advanced to the same degree as our costs. The increase does not affect all of our lines and models.

"The average increase on our household refrigerator line is approximately 4½%. In the case of our electric range line, the average increase is less than 3%.

"The reasons for these adjustments are apparent," Mr. Bratten continued, "when it is realized that our labor costs have gone up over 11% as a result of wage increases in April and there has been a considerable increase in material costs. We had hoped that our improved manufacturing facilities and techniques—together with the larger volume we had planned—would offset a greater proportion of these higher costs.

"However, we haven't yet been able to reach our planned daily production because of material shortages, and it now appears we will not be able to do so for some time to come."

Mr. Bratten pointed out that with these new prices the retail price per cubic foot for Frigidaire refrigerators is only 11% greater than it was in 1939. Also, Frigidaire's most popular 6-cu. ft. model in 1939 sold at retail in most areas for $179.75. A similar model of equal capacity will now sell for $189.75 or an increase of only 5.6% even though many new features have been added, he stated.

Heat Pump Production Will Boom In 1948, Utilities Are Told

ATLANTIC CITY, N. J. — Large scale production of the heat pump will begin in 1948, and some 2,000 units will be produced this year, the Edison Electric Institute was informed at its four-day annual meeting here.

Potential effects of the heat pump on home heating and air conditioning, power consumption, and electric rates were discussed at the meeting by three speakers—Marvin S. Smith, vice president of the Muncie Gear Works, Inc., A. C. Crandall, vice president of the Indianapolis Power & Light Co., and E. N. Kemler, professor of engineering at New York University.

Cost of the heat pump, both for installation and operation, will be comparable to present home heating and air conditioning systems, Mr. Smith told EEI, emphasizing several features that should create public acceptance.

"Actually," he said, "it takes dirt out of the air. In addition, it eliminates the need for chimneys and occupies no more space than needed, say, for a desk. Another point is that it eliminates the danger of explosion because there is no combustion involved in its operation."

Previous high costs of the heat pump have made its adoption slow in this country, but today's price should make it attractive to home owners regardless of the system they have installed, Mr. Crandall told the meeting.

Widespread use of the heat pump should likewise reduce power costs from the present 3.2 cents per kwh. to less than 2 cents, Mr. Crandall said.

Greater power generating facilities will also be required of utilities if the heat pump really "takes hold," commented Mr. Smith, who believes the average residential consumption of electricity will jump from 1,200 kwh. to 10,000.

Increasing costs of coal should help the popularity of the heat pump, but the coal interests note that while heat pumps may reduce coal consumption in homes, greatly expanded electric power requirements will result in vast consumption of coal utilities, pointed out Mr. Crandall.

Inventory Margins Near Prewar Ratio; Threat of 'Panicky Liquidation' Eases

WASHINGTON, D. C. — Prewar margins between inventories and sales have been largely restored by retailers of durable goods, although the situation differs in various parts of the country, according to the U. S. Department of Commerce.

The overall inventory condition of business and industry has likewise generally improved to the point where the "danger of panicky liquidation of inventories" has been reduced, the department believes, allowing, of course, for the possibility of a sudden reversal of consumer and factory buying trends when the most serious shortages have been eliminated.

These are some of the conclusions reached by S. Morris Livingston of the Office of Business Economics, writing in the department's *Survey of Current Business*.

"In prewar years inventories [of retail durable goods stores] were generally equal to 1½ month's sales plus a margin of little less than half a billion dollars," says Mr. Livingston. "The same margin at today's prices would be nearer three-quarters of a billion.

"At the seasonal peak in the spring of 1942 this margin had widened to 1¾ billions. From that point the book value of inventories carried by durable goods stores declined rapidly. At the end of 1945 it was below 1939 in spite of substantially higher prices.

"Because of the need to stock a minimum line for display purposes, the rapid expansion of inventories of durable goods stores in 1946 tended to precede the increase in their sales," he continues.

"At the end of March, 1947, the prewar margin between inventories and sales was restored. The only significant deficiency was relative to the potential sales which could have been made if there had been adequate

(Concluded on Page 4, Column 3)

The NAT Corporation of Kansas City



Combines
Appearance and Performance
with PRACTICAL Design
•
Finished Crackled Brown or
Hammered Grey Baked Enamel

announces
THE NEW
NAT
(self contained)
AIR CONDITIONER

The Nat Air-conditioning Unit's unique design, based on 17 years of research directed by Nathan Baraban, makes it—

The Answer to the Service-Man's Prayer

All working parts are accessible without having to tear down the cabinet. A saving of time and labor.

The NAT Unit comes in 3 sizes: 3.0, 4.2 and 5.4 Tons

Sold through exclusive dealers and distributors some territory still open — inquiries invited

The **NAT** *Corporation*

2710 McGee Trafficway • Phone HA. 1892 • KANSAS CITY, MISSOURI

The Nat Corporation also manufactures the NAT Suspended Gas-Fired Unit Heater

Refrigeration Projects Get Construction Okay

WASHINGTON, D. C. — Approval of the following non-housing construction projects was granted by the Office of the Housing Expediter recently:

A frozen food locker plant to be built by O. P. Stephenson at Cedar Springs, Mich. at an estimated cost of $14,100.

An addition to a maintenance building for the repair of refrigeration units and automobile tires requested by the Penn Tire & Appliance Co. of Ferndale, Mich. Cost is estimated at $5,000.

An electrical appliance sales and repair and farm machinery repair building to be erected at Ripon, Calif. by Charles B. Roark at a cost of $5,000.

A self-service food market to be built by Peartree & Pasfield, Inc. at Wynnewood, Pa. for approximately $20,500.

Remmo Heads Jacobs Sales

DETROIT—Clyde G. Remmo, formerly assistant sales manager, has been promoted to succeed J. W. Stigall as sales manager of the appliance division of the F. L. Jacobs Co. here, the firm has announced. Mr. Stigall has resigned.

At the same time, T. R. Buttrick, formerly in charge of distribution for the division, was named to fill the post of assistant sales manager. M. H. Powless moved into Mr. Buttrick's former position, the company said.

High School Seniors Get 'Short-Cuts to Better Living' from Dealer

SOUTH BEND, Ind. — The first season of a long-range program by Robertson's department store to acquaint high school home economics class seniors with the advantages of modern home appliances has come to a successful conclusion, according to Milo Cool, manager of the appliance department and originator of "Short-Cuts to Better Living."

Once weekly throughout the school year, the future homemakers and their teachers from schools here and nearby communities were guests of the store from 10 a.m. to 2:30 p.m. They spent one-third of the time in the appliance department, where Mrs. Rita Beatty, the store's home service director, gave a use demonstration of the Bendix automatic washer, showed the electric kitchen, and discussed laundry and kitchen planning.

The balance of the time was spent in the fabrics, drapery, furniture, and interior decoration departments, with department heads in charge. Each visit was concluded with a luncheon.

Non-commercial in nature, the "Short-Cuts to Better Living" series has created considerable interest, Mr. Cool said. For example, mothers have been brought to the department to inspect merchandise with their daughters, and a number of sales have resulted.

Hotpoint To Expand Advertising Program

CHICAGO—Aimed at strengthening the overall merchandising program of major household appliance dealers, a substantially expanded advertising program for the remaining six months of 1947, has been announced by Edward R. Taylor, merchandising manager, Hotpoint Inc.

Designed to place special emphasis on point-of-sale promotion at the dealer level, the half-year campaign will be substantially greater than the company's full year appropriation in 1946.

Cooperative advertising will remain on the shelf for the balance of the current year. Reason for this, he added, "is that production itself must remain on allocation for that period of time." This interval will permit the company to build up a substantial reserve for cooperative advertising in 1948 when production will have reached triple present outputs.

Spearheading the intensified campaign will be four-color, two-page blasts confined to mass-media, to appear around the latter part of June. Later, complete coverage of the consumer market will be achieved through the use of more than a score of national magazines and farm publications, with a full list gained by early 1948. Meanwhile, the double treatment in fewer books is slanted to impress consumers with Hotpoint's dominance while its production is not yet up to peak.

According to Mr. Taylor, another objective of Hotpoint's consumer campaign is to assist dealers in selling completely electrified kitchens in addition to the sale of single appliances.

Each advertisement will emphasize one specific appliance while providing substantial minor promotion to all appliances in the company's complete line. In order that dealers may capitalize upon the program to the greatest possible extent, featured appliances in the advertisements will be rotated in accordance with production levels and availability.

Initial consumer advertisements will stress the electric refrigerator with a frozen food compartment while devoting minor attention to illustrations and copy on the electric range, water heater, wringer-type washer, electric sink with Disposall food waste disposer, food freezer, and ironer.

Frazier To Manage Sales For Trion, Filter Mfr.

McKEES ROCKS, Pa. — Appointment of John W. Frazier as general sales manager of Trion, Inc., formerly the Pittsburgh Range Co., has been announced by the firm.

In his new capacity, Mr. Frazier will direct all sales and sales promotions on the electrostatic precipitator for homes and commercial establishments, which the company is making.

Mr. Frazier has been associated with the Equitable Gas Co. of Pittsburgh since 1936 doing sales and supervisory work in the heating line.

Trion's product, the electric air filter, is designed for use in connection with warm air heating systems.

Frank West Will Direct New Kaiser Sales District

ATLANTA — Establishment of Southeastern regional sales headquarters here, with Frank L. West as regional sales manager, has been announced by Kaiser Fleetwing Sales Corp., of Bristol, Pa.

Before taking the new post, Mr. West was a field supervisor here for Firestone Tire & Rubber Co.

Kaiser Fleetwing Sales Corp. distributes Kaiser dishwashing machines. Its Atlanta office, in the Peters building, will cover the states of Georgia, Alabama, Florida, Mississippi, the Carolinas, Virginia, and Tennessee.

Industry Pays $3,523,167 In Excise Taxes During April

WASHINGTON, D. C.—The U. S. government collected $3,523,167.11 from manufacturers in excise taxes on refrigerators, air conditioners, etc. during the month of April, it was announced here.

This compared with collections of $726,397.41 on the same type goods in April, 1946.

A similar sharp increase was noted in the more general category of electric, gas, and oil apparatus where the collections in April this year totaled $7,403,522.97 as compared with $2,523,272.93 in April of 1946.

Jack & Heintz Publishes First Condensing Unit Data Book

CLEVELAND — The first booklet of Jack & Heintz condensing unit data, known as RCU 5000, was published recently by Jack & Heintz Precision Industries, Inc.

The booklet contains an illustrated spare parts list, a list of electric motor service stations, and brief service data including specifications, installation hints, and refrigeration tables.



SHOWROOM FINISH
Protected through YEARS OF SERVICE
by BONDERIZING

Leaders in the refrigeration field provide lasting fine finish protection by Bonderizing.

Bonderizing is the nationally known process which builds a nonmetallic crystalline coating over and integral with the metal. The Bonderizing layer anchors paint to metal, resists corrosion, guards against the spread of finish failure from the scratches and bumps of daily use.

Buyers know that Bonderizing helps preserve "showroom finish," keeps appliances looking better longer. Take advantage of this sales feature which leading manufacturers give you. Tell your customers, "It's Bonderized."

PARKER RUST PROOF COMPANY
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PARKER PROCESSES

Bonderite, Parco, Parco Lubrite—Reg. U.S. Pat. Off.

BONDERIZING Holds Paint to Metal | **PARKERIZING** Inhibits Rust | **PARCO LUBRIZING** Retards Wear on Friction Surfaces

PARKER PRODUCTS CONQUER RUST

PAR REFRIGERATION EQUIPMENT



Tops in
PERFORMANCE
ECONOMY and
EFFICIENCY

Lynch Manufacturing Corporation
... By Comparison — You'll Buy PAR
General Offices, Toledo 1 • Factory, Deflance, Ohio, U.S.A.

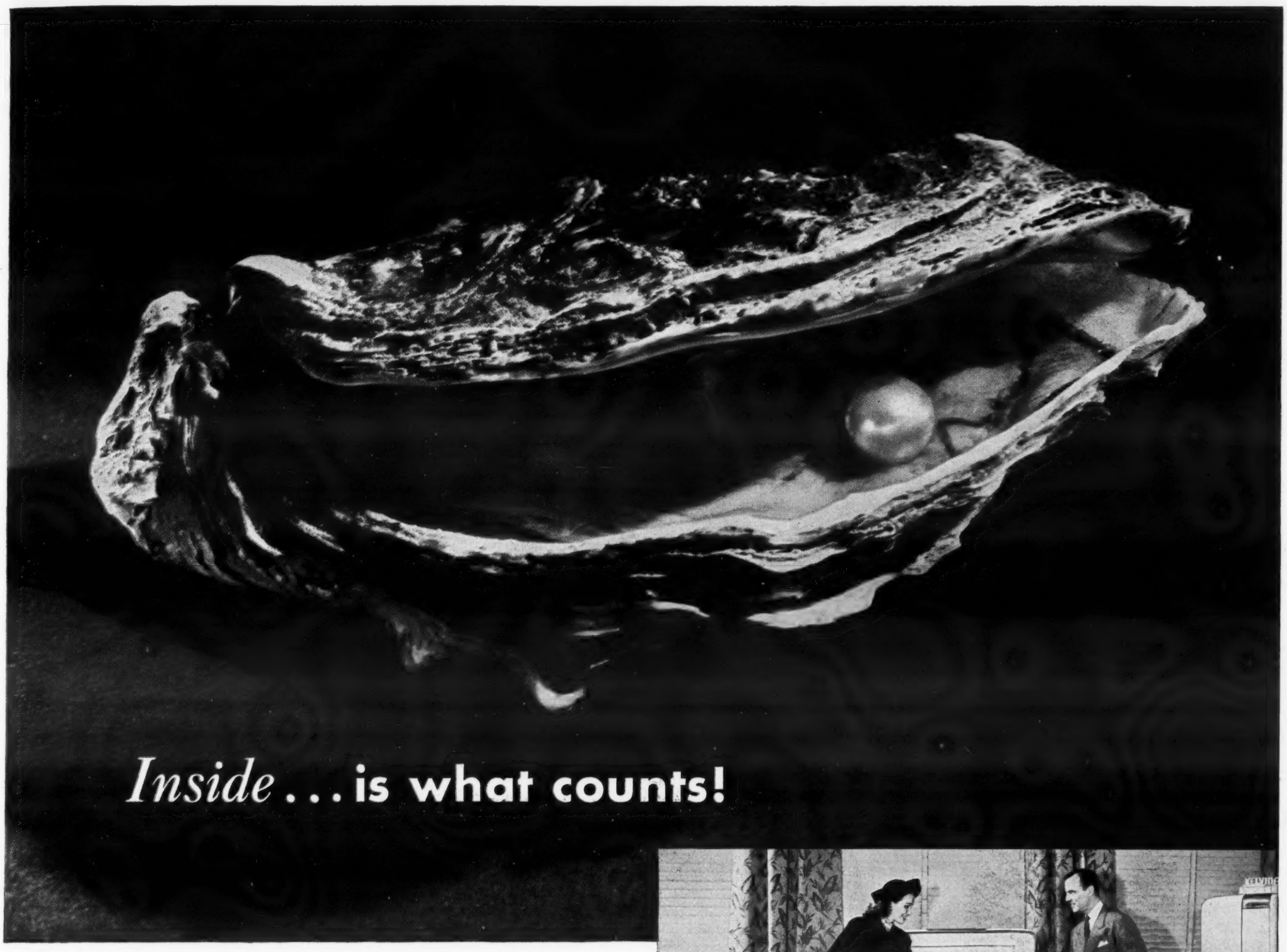
5620 GLASSES
OF HIGHLY CARBONATED WATER FROM A SINGLE 20 lb. TANK OF CO_2



220 gallons or up to 5620 glasses from one tank of CO_2 gas! (We invite you to check this performance against any other carbonator on the market.) And the new Temprite cools, carbonates and dispenses either plain or carbonated water up to 300 glasses per hour . . . at a constant 40 degrees.

No CO_2 gas less through purges or vents. Peak carbonation at lowest CO_2 gas pressure. Carbonator available without cooler where water cooling equipment is already installed.

TEMPRITE PRODUCTS CORP.
43 PIQUETTE AVE. • DETROIT 2, MICHIGAN



Nature's fabulous wonder . . . the lustrous pearl growing inside an oyster . . . has a special meaning for Kelvinator people.

It's a reminder that the *inside story* on the Home Freezer is really what makes the sale. For it's this inside story that supports the salesman's deep conviction that Kelvinator's hidden features—no less than the obvious—give longer life and greater consumer satisfaction over the years.

For example, take the refrigerating coil that blankets all four inner walls of the cabinet and freezer-section bottom with frigid cold. As a result, every particle of stored food is within 7-1/32 inches of a sub-zero surface, assuring fast freezing and safe storage.

Then, too, Kelvinator's exclusive, revolutionary, new condenser design permits additional food storage space . . . up to *40% more!* Because of this construction, Kelvinator's 6 cu. ft. freezer is no larger in exterior dimensions than the conventional "4".

And, most important of all, there's the matchless Polarsphere refrigerating unit. In millions of home installations, commercial ice cream cabinets and beverage coolers . . . its incredibly trouble-free performance challenges comparison!

It is basic values such as these—present in both Kelvinator products and policies—that build in those who sell, the conviction that wins sales!

You build a future with RETAIL-MINDED **Kelvinator**

THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY

DIVISION OF NASH-KELVINATOR CORPORATION • DETROIT 32 • MICHIGAN

Premier Distributors, Dealers Revive Vacuum Trade-In Allowances

NEW YORK CITY — Distributors and retailers of Premier vacuum cleaners in Manhattan, Brooklyn, and New Jersey have revived trade-in allowances on consumers' used machines, it was revealed here June 5.

A Manhattan distributor representative told the press that the allowances, held in abeyance since May, 1942, have been reinstituted because both segments of the trade now are "not only selling against orders but actually are digging for orders."

Trade-in allowances to be applied against purchase of any one of the Premier cleaners, retailing for $79.75 and $69.75 in the two upright models and $74.75 in the tank type, are divided into four classifications. For a used straight-suction type, the dealer permits the purchaser $5; for a simple motor-driven brush cleaner, $750; for a two-speed motor-driven brush mechanism, $10; and for a tank or cylinder type cleaner, $12.50.

It was pointed out that the significance of the revival of the trade-in lies in the indirect price cut involved in sales of a well-known branded item.

Dealers said that one of the features of the plan which has proven attractive to retailers is the thorough and satisfactory rebuilding of trade-ins done by the distributor. The work is handled by factory-trained servicemen whenever materials are procurable.

Utilize More Research Data, Selling Aids, But Don't Over-Expand, Locker Men Told

NEW YORK CITY — Warnings against over expansion of their plants and urgings to make more use of research education and merchandising were heard by an estimated 800 frozen food locker plant operators from 12 eastern states during early sessions of their regional convention here last week.

Ray Farquhar, executive secretary of the Frozen Food Locker Institute, told them that high construction costs had slowed expansion of the locker industry, but recent increases in processing charges had placed most established operators on a profitable basis.

Jack A. Smith, manager of the locker equipment division of Frigidaire division, General Motors Corp., noted that locker equipment installation costs are now only 50% higher than before the war, and C. Stuart Wishart, general manager of Country Life Frozen Foods, Inc. of Westbury, L. I., declared that locker users saved 20% over regular retail prices when buying meat at wholesale and storing it in their lockers.

Mr. Smith, who said he received more inquiries for new installations from the New England States and Pennsylvania than from other territories, stated that the installed equipment for the average plant costs approximately $25,000.

He asserted that local banks have been cooperative in financing installations since the end of the war.

Dr. Karl Butler, director of research for the Cooperative Grange League Federation Exchange, Inc. of Ithaca, N. Y., described for the delegates gathered in the Hotel New Yorker the study conducted by the Cornell university school of nutrition into results attained from use of 1,000 home freezers in a controlled area of 43,000 population.

Other highlights of the first two days activity in the three-day conclave were:

Work on the formation of frozen food locker associations for the states of Delaware, Maine, Maryland, Massachusetts, Rhode Island, and Vermont.

Victory in the meat cutting contest by Roy Soden of New Jersey Frozen Food Lockers, Morristown, N. J. Mr. Soden won the trophy on the basis of points earned for speed, neatness, and cutting ability.

A proposal for the formation of a liaison committee for joint activities in frozen food promotion by the National Frozen Food Locker Association and the National Association of Frozen Food Packers. The idea was proffered by C. Courtney Seabrook, president of the packers group.

Inventory Margins--

(Concluded from Page 1, Column 3)

supplies of goods. That deficiency was substantial."

With regard to business in general, Mr. Livingston points out that "inventory outlay has been a major expansionary force in recent months," and that "such inventories as are being carried today appear to be held in spite of the general expectations of lower prices in important areas. Mostly they are held because they are deemed necessary and not in the hope of a speculative profit."

Steps already taken by business should limit the "repercussions following the end of inventory accumulation," he declares, citing the more general use of the "last-in-first-out" method of inventory accounting which reduces the risk of loss on high-priced materials.

"Retailers in particular have been rather prompt to mark down poor quality or excessively priced merchandise, thus taking rather than postponing any losses on these items."

These precautions will not necessarily prevent "the inevitable readjustments from boom conditions—the further shift from sellers' to buyers' markets, the return to more normal competitive conditions," he also warns.

Lukan Takes Mansfield Westinghouse Post

MANSFIELD, Ohio — Joseph R. Lukan has been appointed merchandise manager of the range department of the Westinghouse Electric Appliance Division.

Mr. Lukan was transferred from the Chicago office.

How Air Conditioning Producers Spent Advertising Money in 1946

Airtemp

Airtemp Div. of Chrysler Corp.	
(Home Heating & Air Conditioning)	
Saturday Evening Post	$ 99,800
Total	**$ 99,800**
(Industrial Heating & Air Conditioning)	
Nation's Business	$ 8,900
Time	18,930
Saturday Evening Post	31,600
Total	**$ 59,430**

American Blower

American Blower	
American Home	$ 3,160
Better Homes & Gardens	3,780
House Beautiful	1,000
Total	**$ 7,940**

Buffalo Forge

Buffalo Forge Co.	
Business Week	$ 14,399
Total	**$ 14,399**

Carrier

Carrier Corp.	
(Home Air Conditioning)	
Business Week	$ 2,840
Time	3,300
Newsweek	2,330
Saturday Evening Post	31,600
Total	**$ 40,070**
(Industrial Air Conditioning)	
Saturday Evening Post	$ 33,000
Time	26,500
Newsweek	11,260
Business Week	4,299
Total	**$ 75,059**

Clarage Fan

Clarage Fan Co.	
(Air Conditioning)	
Fortune	$ 2,553
Business Week	6,325
Total	**$ 8,878**
(Air Conditioning & Heating)	
Fortune	$ 1,165
Business Week	1,135
Total	**$ 2,300**

Fresh'nd-Aire

Fresh'nd-Aire Co.	
Saturday Evening Post	$ 2,125
Total	**$ 2,125**

Frick

Frick Co.	
(Air Conditioning & Refrigeration)	
Newsweek	$ 12,350
Business Week	6,600
Time	22,000
Total	**$ 40,950**

Frigidaire

Frigidaire, Div. General Motors Corp.	
Newsweek	$ 11,360
Saturday Evening Post	56,100
Time	16,800
Total	**$ 84,260**

General Electric

General Electric Co.	
Time	$ 24,300
Business Week	7,945
Saturday Evening Post	65,400
Collier's	24,000
Total	**$121,645**

Ilg Electric Ventilating

Ilg Electric Ventilating Co.	
House Beautiful	$ 5,600
Time	28,170
Total	**$ 33,770**

Herman Nelson

Herman Nelson Corp.	
Business Week	$ 8,510
Total	**$ 8,510**

B. F. Sturtevant Division

B. F. Sturtevant, Div. Westinghouse Electric Co.	
Business Week	$ 9,880
Time	33,600
Total	**$ 43,480**

Ranking by Companies On Magazine Spending

Airtemp Div. of Chrysler Corp.		
Airtemp heating	$99,800	
Airtemp air conditioning	59,430	$159,230
York Corp. (Incl. refrigeration)		154,723
General Electric Co.		121,645
Carrier Corp.		115,129
Frigidaire Div., General Motors Corp.		84,260
Worthington Pump & Machinery Corp. (Incl. refrigeration)		53,225
B. F. Sturtevant Div., Westinghouse Electric Corp.		43,480
Trane Co.		
heating	$28,944	
air conditioning	12,415	41,359
Frick Co. (Incl. refrigeration)		40,950
Ilg Electric Ventilating Co.		33,770
Buffalo Forge Co.		14,399
Clarage Fan Co.		
air conditioning	$ 8,878	
heating	2,300	11,178
Herman Nelson Corp.		8,510
American Blower Co.		7,940
Fresh'nd-Aire Co.		2,125
Young Radiator Co.		1,388

Trane

Trane Co.	
(Industrial Air Conditioning)	
Newsweek	$ 12,415
Total	**$ 12,415**
(Home Heating & Air Conditioning)	
Business Week	$ 2,500
Total	**$ 2,500**
(Industrial Heating & Air Conditioning)	
Fortune	$ 2,200
Business Week	13,684
Newsweek	10,560
Total	**$ 26,444**

Worthington Pump

Worthington Pump & Machinery Corp.	
(Air Conditioning & Refrigeration)	
Newsweek	$ 16,380
Business Week	8,345
Time	28,500
Total	**$ 53,225**

York

York Corp.	
(Air Conditioning & Refrigeration)	
Fortune	$ 28,326
Nation's Business	15,426
Newsweek	33,328
Business Week	17,263
Time	60,380
Total	**$154,723**

Young Radiator

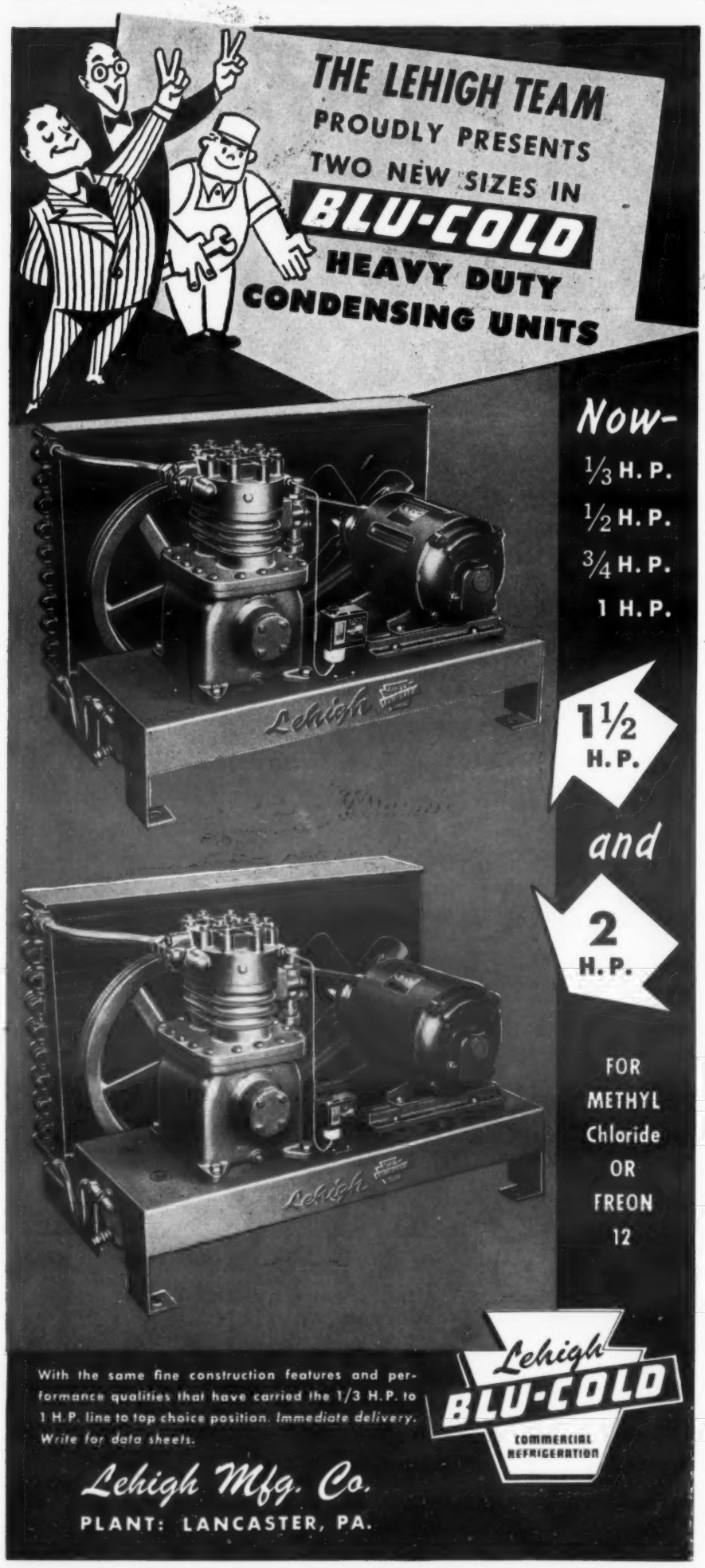
Young Radiator Co.	
Fortune	$ 1,388
Total	**$ 1,388**

Credit Restrictions--

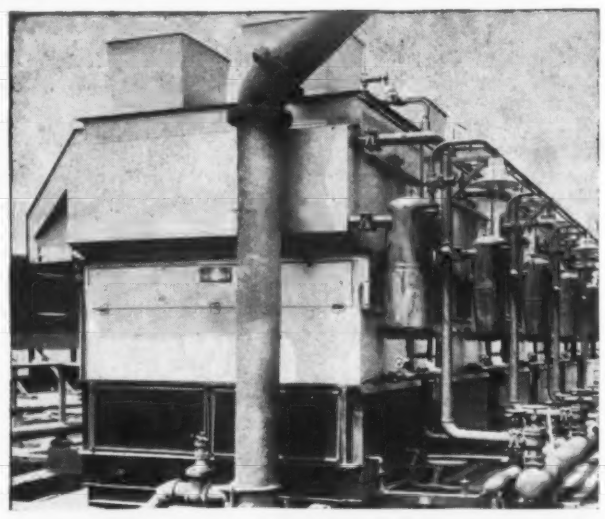
(Concluded from Page 1, Column 4)

Although he acknowledged that this expansion is not yet excessive in relation to national income and production, Mr. Eccles cautioned that instalment credit could increase rapidly if controls are lifted.

Declaring that the need for regulation "is not merely temporary," he warned that credit expansion must be watched and restrained so families will not go too much in debt on too easy terms. He said voluntary efforts by "foresighted companies" would be ineffective.



Sustained Performance
Increased Production
Lower-Cost Operation



● Refrigeration equipment, tending to decrease in effective capacity after a number of years in service, creates many production bottle-necks.

These can be opened up and production increased by installing a Niagara Aeropass Condenser (typical results: 10% capacity increase... plus 23% power saving ...95% of condenser water saved... with no addition to compressor equipment).

This performance is sustained for long life since the Niagara Aeropass Condenser lowers the condensing temperature to prevent any scale deposit on condenser tubes and effectively keeps oil from accumulating in the refrigerant lines.

In addition, with the patented Niagara "Balanced Wet Bulb Control", the Condenser will automatically, and for the year 'round, hold the head pressure to the minimum practical point for proper refrigerant distribution.

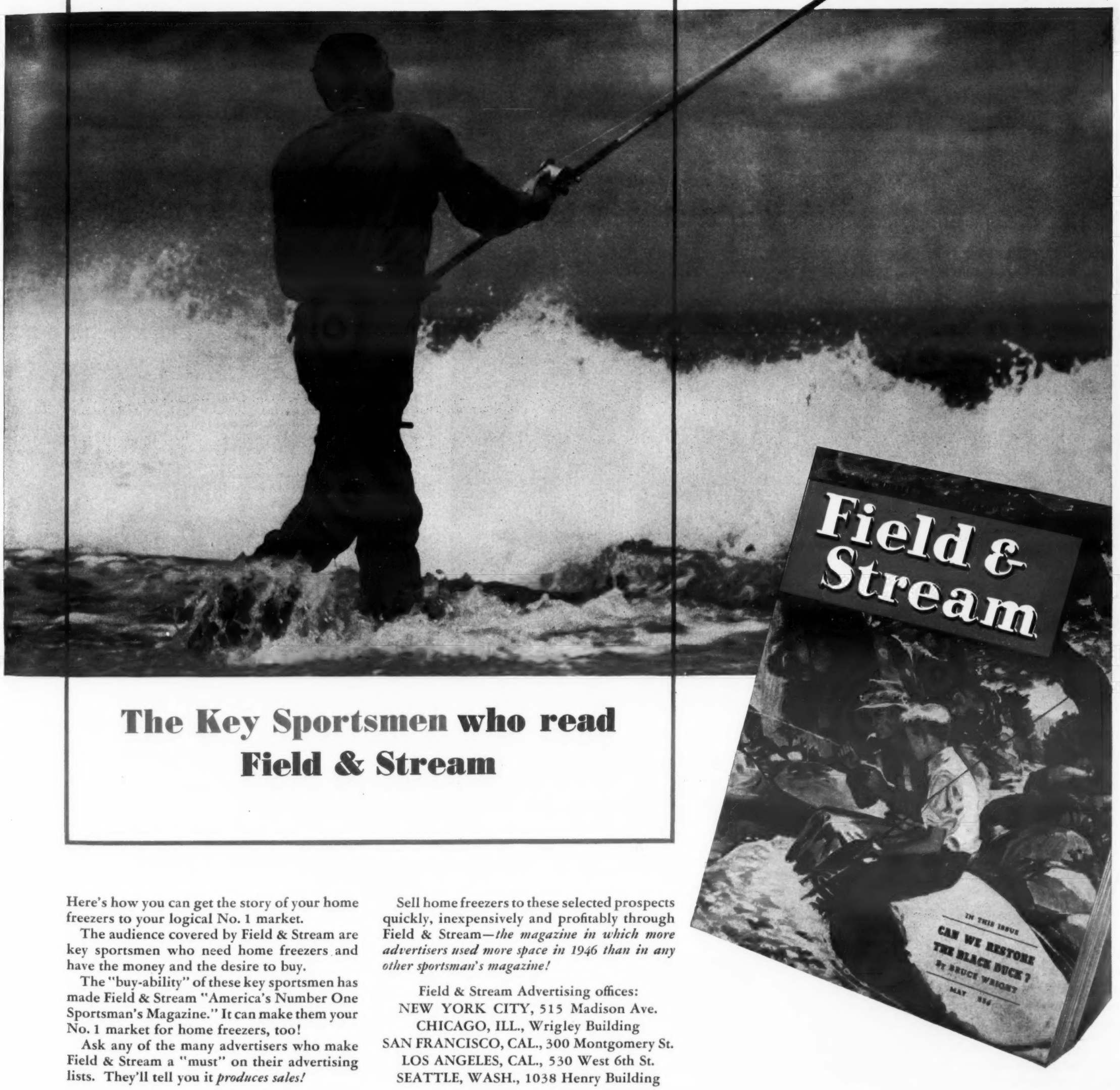
For complete description, write for Bulletin 103-AC.

NIAGARA BLOWER COMPANY
Over 30 Years of Service in Industrial Air Engineering
405 Lexington Ave., New York 17, N.Y.
Field Engineering Offices in Principal Cities

INDUSTRIAL COOLING HEATING • DRYING **NIAGARA** HUMIDIFYING • AIR ENGINEERING EQUPT.

Your No. 1 Market FOR HOME FREEZERS

● A lot of surf fishermen have two things in common—they catch a lot of fish, and they read Field & Stream. They have one more quality that's equally important—the means to buy the things they want and need. Therefore, when you advertise your home freezer in Field & Stream, America's Number One Sportsman's Magazine, you're reaching the key sportsmen who need and want home freezers for their food storage requirements.



The Key Sportsmen who read Field & Stream

Here's how you can get the story of your home freezers to your logical No. 1 market.

The audience covered by Field & Stream are key sportsmen who need home freezers and have the money and the desire to buy.

The "buy-ability" of these key sportsmen has made Field & Stream "America's Number One Sportsman's Magazine." It can make them your No. 1 market for home freezers, too!

Ask any of the many advertisers who make Field & Stream a "must" on their advertising lists. They'll tell you it *produces sales!*

Sell home freezers to these selected prospects quickly, inexpensively and profitably through Field & Stream—*the magazine in which more advertisers used more space in 1946 than in any other sportsman's magazine!*

Field & Stream Advertising offices:
NEW YORK CITY, 515 Madison Ave.
CHICAGO, ILL., Wrigley Building
SAN FRANCISCO, CAL., 300 Montgomery St.
LOS ANGELES, CAL., 530 West 6th St.
SEATTLE, WASH., 1038 Henry Building

TO SELL HOME FREEZERS TO YOUR NO. 1 MARKET USE **Field & Stream**

AMERICA'S NUMBER ONE SPORTSMAN'S MAGAZINE

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

Know any more than you did before?

Business Statesmanship

The Committee for Economic Development has declared war on the notion that another great American depression is inevitable.

And that's good news, friends, because the CED is one business organization that fights with intelligence, vision, and a keen sense of public responsibility.

It was founded several years ago to combat another dangerous false notion—then widely held—that mass unemployment was bound to come right after the war and would require extraordinary government measures to provide jobs.

The CED, believing that wise forethought on the part of business and industry could maintain high employment, worked diligently to stimulate such cooperation and to forestall unemployment.

Events have proved how right it was. And how much of this last year's economic grief might have been avoided if our government had shared the CED's faith and refused to heed its own mistaken prophets of an immediate postwar deflation!

The CED wants to preserve free enterprise by making this best-of-all-systems work for the greatest good of the American people. It wants to keep employment and production high, and take no chance of letting a small recession become a big depression.

It definitely abhors a government-planned economy. But it does want government to plan its own far-reaching activities, to the end that they may most encourage and least impede the establishment and growth of legitimate, competitive, job-creating business enterprises.

And so the CED's national leaders—Paul G. Hoffman, Eric Johnston, John D. Biggers, and other progressive individuals in industry and business—are putting businessmen and economists to work on research into three great problems of the immediate future.

These problems are:

1. How to reduce the number of strikes, and prevent the losses they cause—not by taking freedom from labor—but by improving labor-management relations and making collective bargaining work better.

2. How to develop a wage-price policy which, instead of merely taking money from one group and giving to another, will stimulate production of more wealth to be shared by all groups in higher real wages and increased purchasing power.

3. How to manage the government's fiscal and tax policies so as to meet the actual need for federal revenues, but still avoid undue interference with stability of the national economy at normal high levels of prosperity.

The CED, being realistic and honest, does not promise that absolute stability, with no fluctuations, can be achieved by the free, dynamic economy for which it stands. It does hold that wise cooperation by business, labor, agriculture, and government can prevent the wide swings from boom to bust that have been so disastrous in the past.

This publication welcomes the CED's new program of recent months. And we agree with Chairman Hoffman that now is the time for this country to decide that it has no inescapable reason for scaring itself into either a little recession soon or a major depression later.

Here are some of the future research studies projected by the CED:

Ways of encouraging the development of small business.

Fiscal and monetary policy to combat inflation and deflation.

Methods of stabilizing the construction industry.

Ways of bringing about a steady flow of investment in business and industry.

Actions businessmen can take in the management of their business affairs to help keep employment high and productivity increasing.

Federal tax policies to encourage production and employment.

Practices and policies in labor-management relationships to foster increasing productivity and industrial peace.

Proper wage-price relationships to raise living standards and stimulate production and employment.

Eventually, it is hoped, a summary report on all these down-to-earth studies will be issued by the CED.

All these research reports, after they have been integrated, will bear upon America's central problem of high employment and increasing productivity.

Making use of the findings of the economists, the businessmen who comprise the Research and Policy Committee of the CED weigh and then issue statements making specific recommendations for public and business policies designed to promote economic stability and higher living standards for an increasing number of the people of our great nation. Example:

Concerning the labor-management relations project recently approved by the CED, its aim is "to find a pattern of policies for management, labor, and Government which will: (1) avoid interruptions to production while management-labor disputes are being settled; and (2) lead to terms of settlement that serve the general public interest as well as the interests of the immediate parties to disputes."

The original research and preparation of a report on this ultra-important matter has been undertaken by Profs. Douglass V. Brown and Charles Myers of Massachusetts Institute of Technology. They will have the benefit of consultation with a panel of businessmen and an advisory group of independent economists. And their research report will present the findings and conclusions of the authors in accordance with the standard CED practice.

The businessmen members of the CED's Research and Policy Committee will develop recommendations for all concerned in labor-management relations on the basis of the facts and conclusions presented in the Brown-Myers report, and with the aid of suggestions offered by the consulting groups of businessmen and economists.

CED research rejects the idea of a regimented economy as a means of getting high production and employment. It is searching for policies that will strengthen democratic free enterprise and, at the same time, bring about continuous economic progress without the sharp dips that America—and the world—has undergone in the last half-century.

Here's One Answer

To C. G. Frantz, pioneer Cleveland industrialist who heads the Apex Electrical Mfg. Co., there is nothing unusual about the friendly, smiling greetings he receives from his employes every day in the week.

To visitors, however, the cheerful "Hello, C. G." and the obvious good will which his employes display toward their boss is a continuing source of amazement.

"How do you do it?" one of his friends asked him after a tour of the Apex factory. This friend cited the bitterness, absenteeism, and the poor production record of his own plant.

On his desk, which is an old fashioned roll-top, Mr. Frantz has two newspapers. One was a metropolitan daily—black with the latest unhappy headlines about strikes and labor-union defiance. The other publication was "The Machinist," which is issued by the AFL International Association of Machinists. Its big headline: "Unique Apex Plan Wins Peak Production."

The front page lead story, plus a full page of pictures in this union-sponsored publication told a story of mutual trust and cooperation that is rare in industry today. As a result of this mutual good-feeling, the Apex plants are reaching their production goals, and their employes earn high pay.

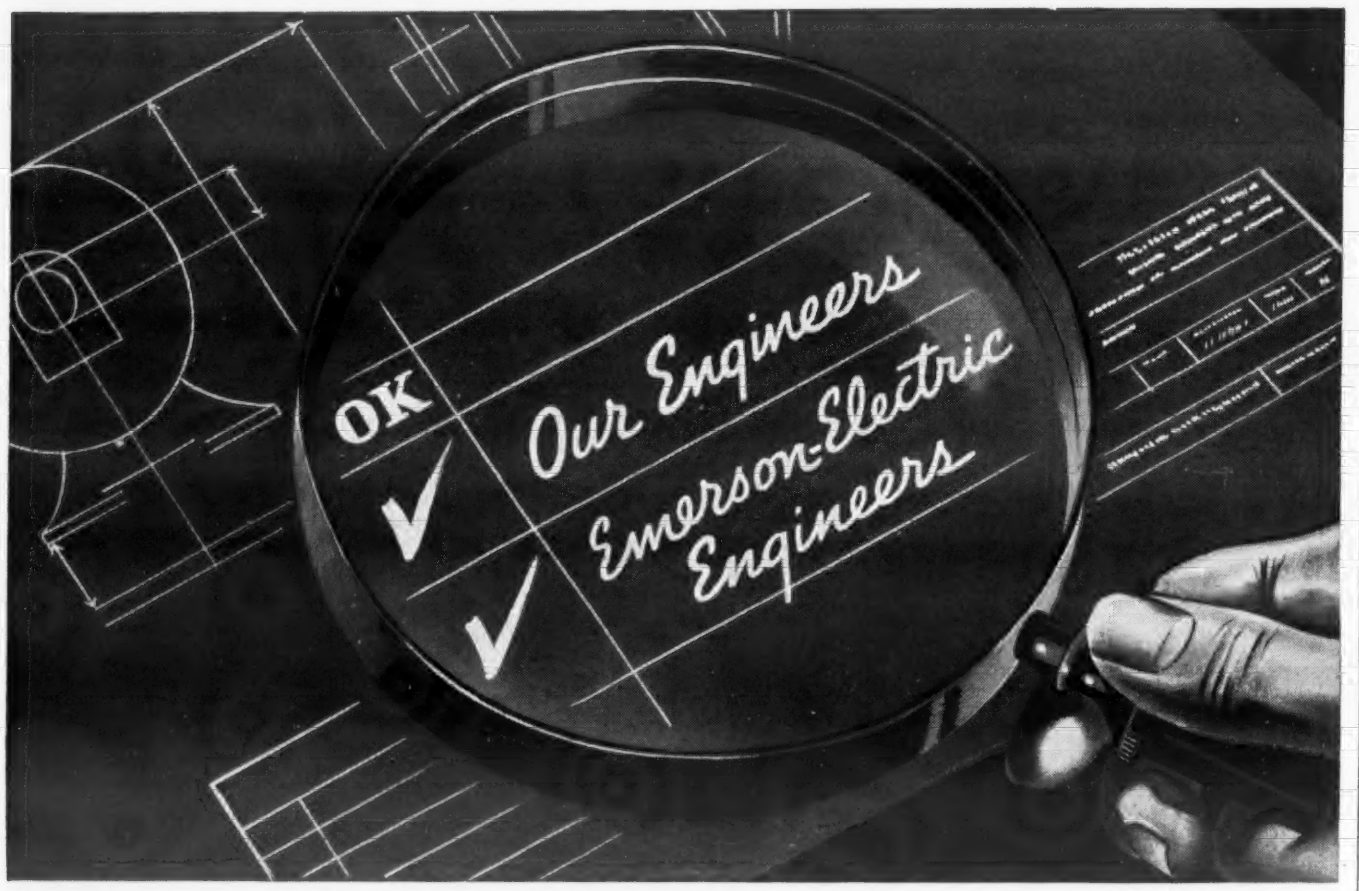
The Apex plan, worked out by union and management representatives, is a variation of the piecework and incentive system. Labor had traditionally opposed such plans, because unions regard them as a management device for "speed-ups" in production. Management, on the other hand, has traditionally maintained that it must have undisputed control over time studies upon which piecework rates are based.

At the Apex plants in Cleveland, a committee of six men selected by the union (and trained by the company) makes the time studies. The union supervises the system, and all records are open to inspection by the worker himself.

The chief shop steward also was given the full time-study course, so that he could have sufficient knowledge to check any complaint that might be made. And everybody is happy.

"We are willing to pay an amount of money proportionate to a worker's ability to produce," declares Mr. Frantz. "Our men want the pay. We want production. The plan has worked out to everyone's satisfaction."

Matthew De More, president of District 54 of the AFL International Association of Machinists, is also enthusiastic about this piece-work system. "Common sense on both sides is the answer to labor problems," he insists.

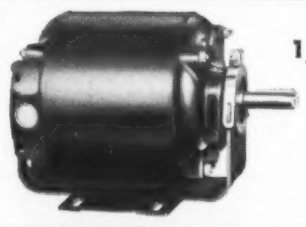


DOUBLE-CHECK your New Product Blueprints with *TWIN-GINEERING!*

WHEN the Okeh of Emerson-Electric Motor Engineers is chalked up beside your own, your new product designs are *double-checked.*

Such collaboration—*Twin-gineering,* we call it—may help you eliminate much costly engineering backtracking, may uncover manufacturing short cuts, may help you put your product on the market with competitive advantages necessary for market success.

For the present, Emerson-Electric is booked solid on motor orders. But, Emerson-Electric Engineers, backed by 56 years' experience, have never been longer on ideas and skill; and never more ready to share these advantages in suggesting money-saving motor applications for your improved or new appliances and equipment. Your inquiry is invited.



1/20 to 5 Horsepower AC and DC

For 56 years, Emerson-Electric has specialized in the development and manufacture of electric motors, 5 Horsepower and smaller.

THE EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

Branches: New York • Chicago • Detroit • Los Angeles • Cincinnati • Davenport

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EMERSON ELECTRIC

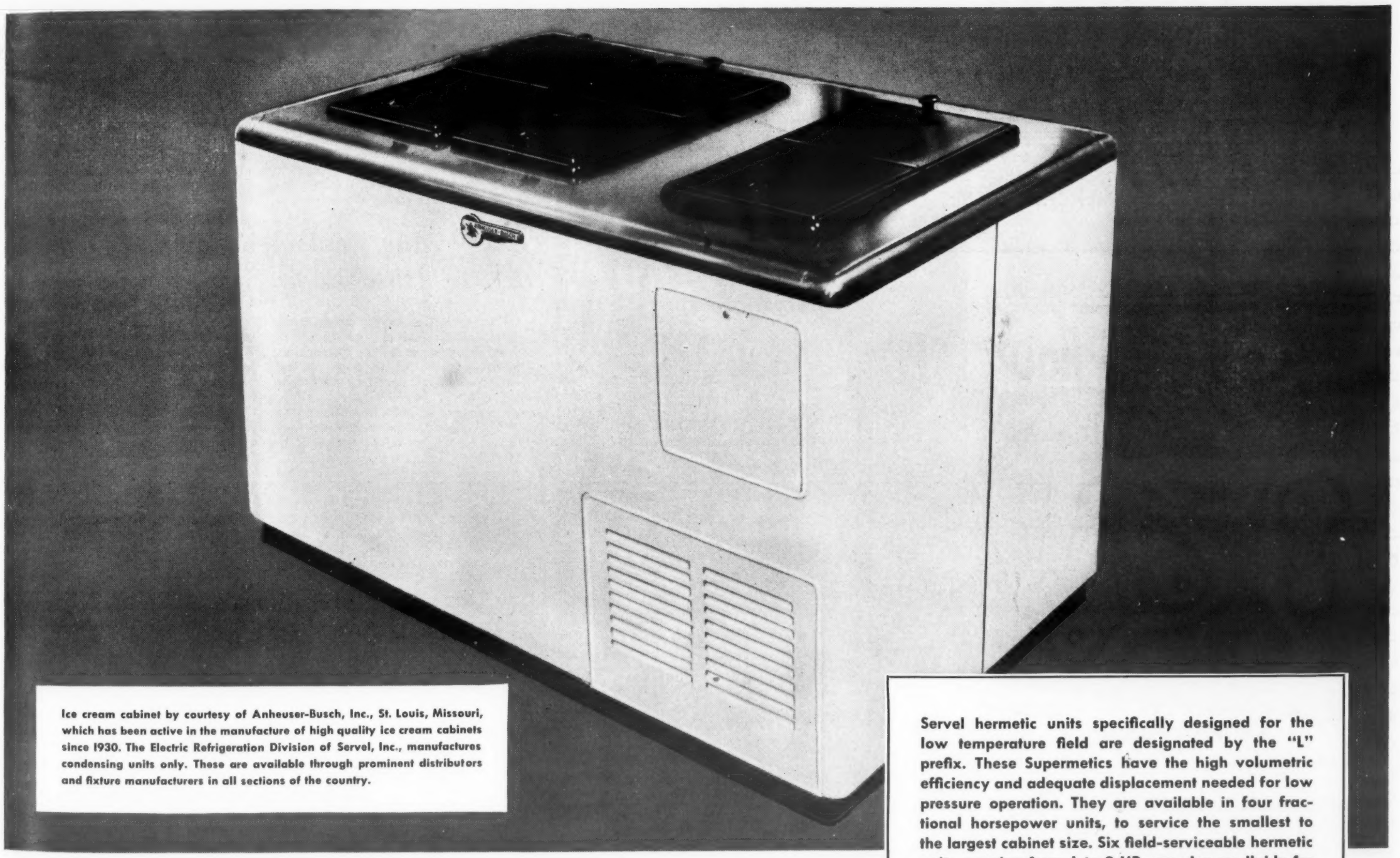
MOTORS · FANS — APPLIANCES



HERE'S YOUR MARKET



DEMAND FOR ICE CREAM CABINETS IS GREATER THAN EVER



Ice cream cabinet by courtesy of Anheuser-Busch, Inc., St. Louis, Missouri, which has been active in the manufacture of high quality ice cream cabinets since 1930. The Electric Refrigeration Division of Servel, Inc., manufactures condensing units only. These are available through prominent distributors and fixture manufacturers in all sections of the country.

THE ice cream industry gave commercial refrigeration its first important market for package merchandise more than twenty years ago, and during the years that followed has contributed no small share to its prosperity.

Reduced volume and retrenchment caused some slackening in the sale of ice cream cabinets and replacement condensing units during the pre-war depression. Then the ban on the manufacture of ice cream cabinets for civilian use during the war left this field in a product-starved condition.

Today statistics indicate that there are in this country more than 7,000 manufacturers of ice cream and allied products—almost double the number serving the field before the war. Over 300,000 drug stores, restaurants, lunch stands, etc. sold ice cream before the war, and this number may easily be doubled within the next few years.

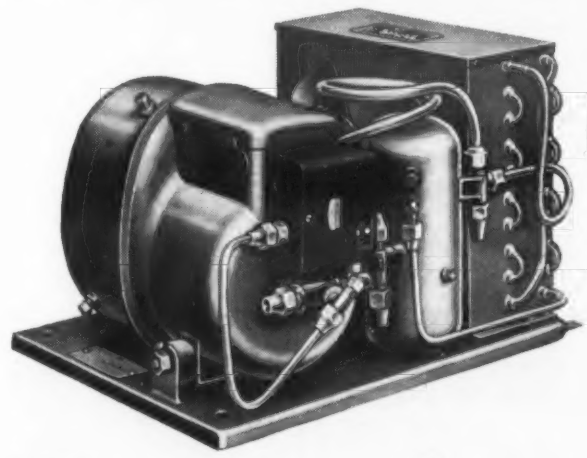
Ice cream demands temperatures near or below zero for safe storage. Such temperatures can be maintained successfully and economically *only* by the use of good mechanical refrigeration.

Since 1926, ice cream cabinets of various makes have been "Powered by Servel" and thousands of satisfied users testify to their economy, dependability, and long life.

Now Servel Supermetic features a new standard for this class of trade. Its permanently sealed construction, using Freon-12 refrigerant, assures permanent freedom from the entrance of air and moisture through leaking seals. The elimination of belts does away with one of the most potent sources of trouble on old style units.

Next time you run across a "tough spot" where the turnover is extra heavy, and the customer hard to please, put in an ice cream cabinet that is "Powered by Servel". You will be agreeably surprised at the results.

Servel hermetic units specifically designed for the low temperature field are designated by the "L" prefix. These Supermetics have the high volumetric efficiency and adequate displacement needed for low pressure operation. They are available in four fractional horsepower units, to service the smallest to the largest cabinet size. Six field-serviceable hermetic units, ranging from 1 to 3 HP, are also available for large storage cabinets, hardeners, etc.



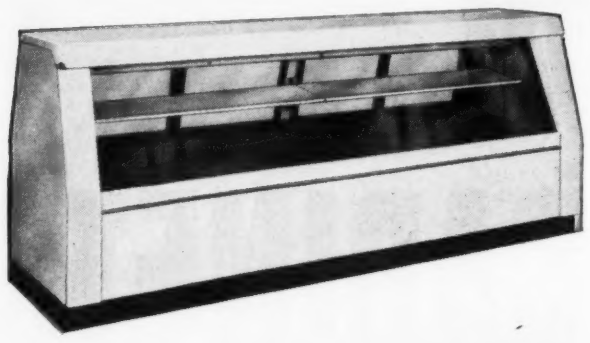
Servel Inc.

ELECTRIC REFRIGERATION DIVISION, EVANSVILLE 20, INDIANA

This is Number Seven in a series of advertisements featuring the markets available to the alert dealer in the commercial refrigeration industry. Ask for reprints for use in training your salesmen to take full advantage of all commercial refrigeration markets.

ATTENTION, DISTRIBUTORS!

A display case that really sells!





Increased facilities now permit a limited supply of this superior refrigerated display case to a limited number of new distributors. A request on your company letterhead will bring complete information and descriptive literature. Write today!

GOLDSMAN

Manufacturers of Commercial Refrigerators

1325 N. LAWRENCE STREET • PHILADELPHIA 22, PA.

Bonus After Quota Is Reached, Plus Dinners Proves Morale Booster

WELLSTON, Mo.—Because he believes that "the boss doesn't profit unless his employes do likewise," Jerry Mundell, head of Mundell Appliance Service here, has set up a system of employe remuneration that assures everyone his share.

Mr. Mundell, who runs a Philco dealership in this St. Louis suburb, pays six mechanics a straight salary plus a 5% bonus after their departmental work quota has been reached. The mechanics, divided into refrigerator, washing machine, and small appliance repair crews, can pitch in and help each other earn more money. Result: each man averages about $70 per week.

A crew of six outside salesmen, now being organized by Mr. Mundell, will receive a $25 per week guarantee plus a 5% commission on all appliancs sold, he declared.

Once a month, Mr. Mundell said, he takes his entire staff to a widely known St. Louis restaurant for cocktails, dinner, and entertainment.

After the entertainment, the employes discuss appliance sales and service problems, air their grievances, and vote on steps to be taken.

Sometimes, Mr. Mundell arranges for a manufacturer's representative to speak to the group.

Mr. Mundell also foots the bills for trips to manufacturing plants where employes see how the products they sell or service are built.

'Baby Food Department' Employs Self-Serve Cases



This young housewife can pick up all the foods she needs for her children in this one special section of the Hampton Village Market in St. Louis. In the refrigerated self-serve display cases are kept milk, formulas, chocolate drinks, and orange drinks.

* * *

Suburban Supermarket Finds Profit In Putting Main Foods for Children In a Single Section

ST. LOUIS—Bettendorf's Hampton Village Market here, one of the world's largest supermarkets, has built up trade among mothers of small children through its "all refrigerated" infant foods department, which was recently completed.

The baby foods department consists of a 20 x 30 bay at the right side of the store, which is completely lined with Hussmann-Ligonier refrigerated self-service cases. Six of these form an enclosure in which milk, formulas, chocolate, and orange drinks, and other items are shown.

The layout of the shop is such that the mother may quickly find refrigerated milk in the size container desired, while immediately above, racks of open shelving contain canned baby foods.

Thus, it is no longer necessary for mothers to walk long distances between the canned baby foods department and dairy department to assemble the requirements for their youngsters—an idea which has been much appreciated, according to Bill Bettendorf, who is the head of the organization.

'Everything Packaged' Plan Okayed by 95% of Ohio Food Store's Customers

DAYTON—Because it stays fresh longer, prepackaged produce is bought in volume by customers at King's Market. About 95% of the store's customers say they like their produce prepackaged.

No produce is sold in bulk in the store. All fruits and vegetables are washed, weighed, and wrapped in heat-sealed transparent paper.

"My customers like prepackaged produce because they can buy in quantities, and keep the wrapped vegetables fresh for as long as a week under refrigeration," says Charles E. King, owner. "Packaged produce is also easier for customers to store."

Mr. King, who operates the store with his brother, Louis F., at 1900 Brown St., believes that his unit was one of the first independent stores in the United States to offer all vegetables packaged.

Prepackaged produce has increased sales 35% and slashed shrinkage to 1%, the store owner says. Shrinkage is low because the produce is kept out of refrigerated cases for only 15 to 20 minutes while being packaged.

The packaging operation is handled in the basement by two full-time workers. A third person is added to the staff during rush periods.

Packaging is done by the clerks next to a large storage refrigerator, sinks, and supplies. These workers wash the vegetables, remove excess leaves and tops, wrap, heat-seal, weigh, price, and code the packages. Code numbers are used to show when the vegetables were packaged. By doing this, the store can continually check stocks and keep them fresh.

After the vegetables are packaged, they are taken upstairs to the service floor and displayed in refrigerated self-service cases.

Few packages are broken as a result of handling by customers, declares Mr. King. He reports that no more than five or 10 packages are broken daily. When this happens, the packages are returned to the wrapping table, rewashed and repackaged.

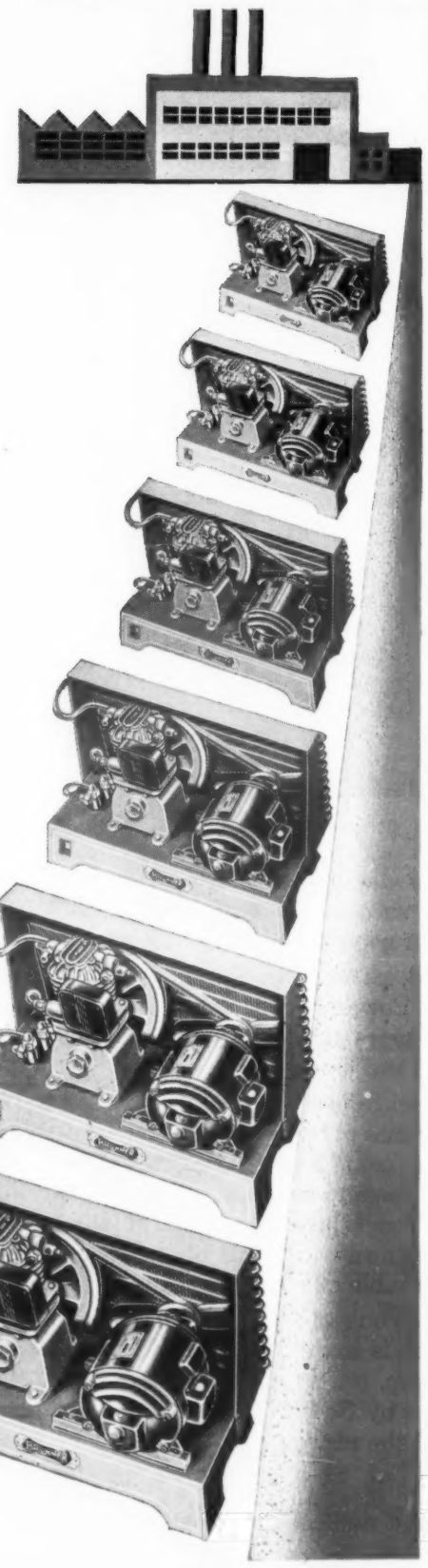
THOUGHTS FOR MERCHANDISERS



You've poured time, trouble *and money* into building a loyal trade of profitable customers. Don't let a single one slip away because he's down on the service your equipment renders. Nothing contributes more to the service value of your products than dependable refrigeration units. And, for many years, the "buy-word" for dependable refrigeration has been BRUNNER condensing units. When you stop to think that one good customer is worth much more to you each year than the cost of a BRUNNER unit, you can see the wisdom of equipping with the best.

BRUNNER MANUFACTURING CO.
Utica 1, New York, U. S. A.

BRUNNER
SINCE 1906
REFRIGERATION
helps you serve better



AIR AND WATER COOLED MODELS
¼ HP. TO 25 HP.

BRUNNER
SINCE 1906

USE *Superior* V-BELTS
•AS ORIGINAL EQUIPMENT• FOR ALL REPLACEMENTS



Here's why-

They have Eye Appeal—they look as good as they really are.

They're precision made for vibrationless drive—therefore they run truer, hold their shape, last longer.

They contain no reclaimed rubber. Their double jacket is synthetic rubber covered to resist oil and grease.

Their heavy duty cable cords are gum-dipped which makes for long life and flexibility.

They are made in a full range of sizes for every cooling or refrigerating fractional horsepower need. Write today for complete information about The Superior V-Belt line.

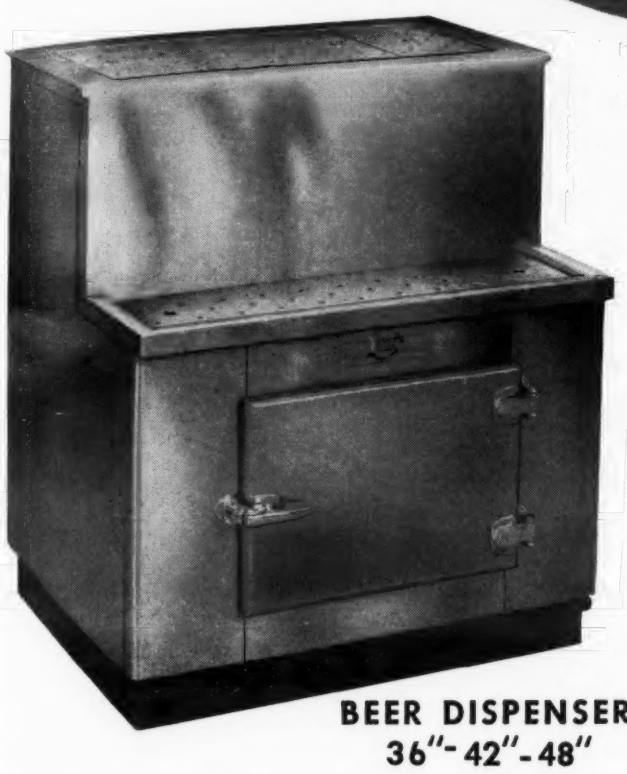
Superior in Quality- as well as name
Builders of V Belts since 1933

SUPERIOR RUBBER PRODUCTS MFG. CO.
OFFICES—4041 RIDGE AVE., PHILADELPHIA 29, PA.
PLANTS IN PHILADELPHIA, PA. AND EGG HARBOR, N. J.

NOW ON THEIR WAY!

THE REFRIGERATION OF TOMORROW *Today!*

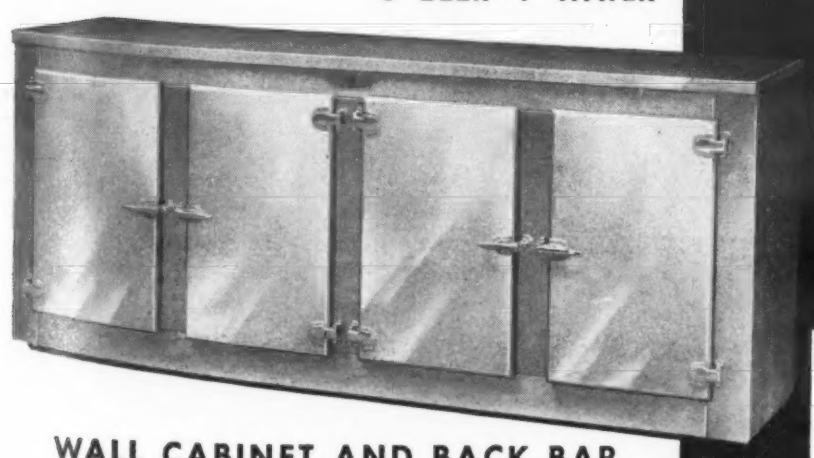
VIMCO — WHERE QUALITY & SERVICE PREVAIL



BEER DISPENSER
36"-42"-48"



DIRECT DRAW
BEER DISPENSER
2 BEER—1 WATER
3 BEER—1 WATER



WALL CABINET AND BACK BAR
Sizes—4' - 6' - 8'

All the features, conveniences and fine details of construction and finish that you have waited for in dependable refrigeration are now yours in these

STREAMLINED STAINLESS STEEL WELDED CASES

These "VIMCO" Cases have:

★ **ADVANCED DESIGN**
providing maximum usable space and display.

★ **ADVANCED CONSTRUCTION**
heavy gauge stainless steel inside and outside, welded solidly into one unit.

★ **ADVANCED ENGINEERING IMPROVEMENTS**
for low cost efficient operation.

★ **ADVANCED METHOD**
and highest quality insulation.

★ **ADVANCED STYLING**
beauty that excites admiration.

★ **ADVANCED EQUIPMENT**

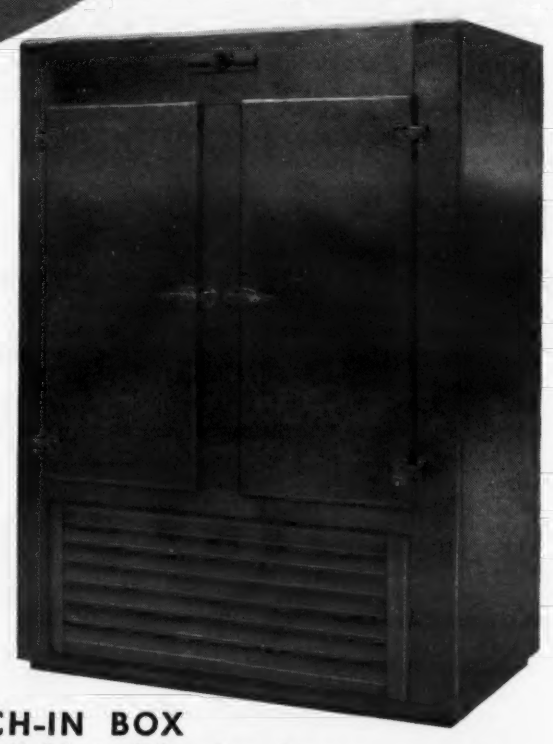
Each of these 6 Vimco Cases is designed to do a complete job; each is as honestly constructed where the eye cannot see as where you can inspect; each cabinet represents the utmost in long-life usefulness and the fullest value for the attractive prices.

WHITE Enameled Boxes
On their way soon!

See your "Vimco" Dealer for specifications or write us direct.

Dealers!
Territories open for progressive dealers interested in a quality line of refrigeration.
Write, wire, or phone!

Specifications subject to change without notice



REACH-IN BOX
Available in following sizes
20 CU' - 30 CU' - 42 CU' -
65 CU' - 70 CU' DOUGH RETARDERS



6'FULL VISION
DISPLAY CASE - 3 Layers Thermo Pane



BOTTLE COOLER
Available in 4 Sizes
4' - 5' - 6' - 8'

VIMCO — WHERE QUALITY & SERVICE PREVAIL

VICTORY METAL MANUFACTURING CORP.

1300 S. FRONT STREET • PHILADELPHIA 47, PA.

VIMCO — WHERE QUALITY & SERVICE PREVAIL

Bakery Tests Public Reaction to Frozen, Uncooked Pastries Prepared In Own Plant

By George M. Hanning

DETROIT—Believed to be the first major bakery in Detroit to come out with its own line of frozen baked goods, Awrey Bakeries here has given a prominent position in its recently opened downtown store to the frozen baked goods section.

Merchandising frozen baked goods is still in the experimental stage at Awrey's, though the company has had its line on the market since last Jan. 5, Thomas L. Awrey, president, indicated. He said that he expects it to remain in the experimental stage for another year or so.

The company is taking it slow and easy, he explained, putting out new frozen products a few at a time. Awrey will watch the public's reaction to frozen baked goods and determine which sell and which do not, he added.

At the present time, Awrey is making about a dozen different types of frozen pies, rolls, and cookies. They include apple and cherry pies, dinner rolls, bran muffins, baking powder biscuits, cloverleaf rolls, chocolate chip cookies, and butter almond slice cookies.

Preparation of the frozen baked goods is handled by Dominic Bevak and William Gordan. Mr. Gordan prepares the items, while Mr. Bevak evolves and writes the baking directions for the consumer.

Mr. Bevak leaves nothing to chance in determining what the housewife can and should do with her new and unfamiliar delicacies.

Realizing that the ordinary housewife will be using standard kitchen equipment when she bakes her rolls and cookies, Mr. Bevak does not use the company's commercial baking ovens when working out his directions.

Instead, he does his experimenting on the electric range in the bakery's lunch room and on his own gas range at home.

The results of his work are passed on to the housewife through printed directions attached to every package. Typical of the detailed directions, the consumer gets is this one for caramel nut rolls: It reads:

"This is a yeast raised product, and if not used immediately it must be placed in the regular refrigerator for not more than 24 hours. If immediately placed in the freezing compartment of your refrigerator, or placed in a home freezer, these rolls may be kept for several days before baking. For best results, use within one week after purchase.

"DIRECTIONS:

"Place cups [rolls are put in individual paper cups prior to freezing] on a warm, medium size baking pan. Place on top of warm stove or in the warmest spot in kitchen. Cover with a cloth or a deep upturned sauce pan. Let rise to ¼ in. above cups. This will take from 2¼ to 3 hours, depending on the room temperature.

"CAUTION: Do not place where it is cool or drafty, and make sure that room is fairly warm.

"Bake as follows: (Gas oven)

"Heat oven to 400° and bake for 20 to 24 minutes.

"Bake as follows: (Electric oven)

"Heat oven to 400° and bake for 18 to 22 minutes.

"Remove from oven and immediately break paper cups open. Turn cup upside down and tap bottom of cup with a teaspoon, causing rolls to drop on pan with bottoms up. Now, using teaspoon, remove the candy that remains in the bottom and spread on roll. Serve warm!

"CAUTION: Use extreme care not to burn fingers, because the candy dressing is very hot.

"INGREDIENTS: Wheat Flour, Dextrose, Malt, Syrup, Lard, Egg Color, Eggs, Whole Milk Solids, Sugar, Nuts, Shortening, Flavor, and Yeast."

Freezing of the uncooked baked goods is done in two Frigidaire 10-hole double-row ice cream freezers. The baked goods are first wrapped in cellophane and then inserted in an attractive Awrey package, Mr. Bevak explained.

The packages are then stacked in one of the ice cream freezers and frozen at -25 to -30° F. When completely frozen, they are transferred to a Frigidaire 8-hole double row ice cream cabinet where they are stored at -10° F. until needed at the retail outlets.

Packages are not wrapped in cellophane until transferred to the holding cabinet, Mr. Bevak pointed out, because the cellophane cracks when exposed directly to temperatures below -10° F. The cellophane inside the package, however, does not crack even at -30° F., he said.

For delivery, the frozen baked goods are packed in large cardboard cartons. During the winter months when they were delivered to a suburban independent store for sale there, this packaging was considered sufficient because the goods were removed from refrigeration for less than an hour, Mr. Bevak declared.



A 8-ft. open case displays frozen pastries at Awrey's store.

However, during the summer, Awrey intends to pack dry ice around the frozen baked goods while in transit, he said.

At the recently opened downtown store, which is the only Awrey outlet now carrying the frozen baked goods except for the main store at the bakery, the frozen delicacies are displayed in an open 8-ft. Hussmann low temperature case strategically located at the rear of the store directly opposite the main entrances.

Suspended over the case and directly facing the entrances are two large signs intended to lure customers entering the store to the frozen baked goods display.

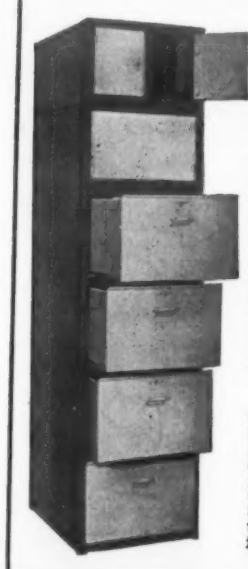
Once the customer tries them, the clerks find, she will come back for more. The trick is getting her to make the initial plunge.

The frozen baked goods are priced just slightly higher than the regular baked goods.

Acceptance by the public, so far, has been sporadic, Mr. Bevak indicated. One week an item will sell well and the next it will move slowly, he said. Rolls are the best sellers to date, he declared.

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New and added profits are provided for you with A-S-E Froz-n-Food Lockers. For A-S-E's the profit line of lockers. Note their features, such as: glide-easy drawer action, smooth two-tone finish; drawer units are factory assembled, steel construction—these and other features make A-S-E Froz-n-Food Lockers easy to sell.

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The Frozen Food Industry



IT CATCHES EVERY EYE AT EVERY ANGLE...

Any way you look at it, the new FRIGID-FREEZE three-dimensional display shows food in its most life-like, appealing, "buy-me-now" form! So startling it makes you come closer—and as you do, it changes shape! It exerts every bit of the sales-appeal in deliciously presented food—customers stop to look and stay to buy!

Your products have depth, realism, full-vision sales appeal!

Brilliantly lighted, full color, life-like products—interchangeable!

Brand-name and package get "can't-miss-it" display.



Prices and products available go here—easy to read, easy to replace.



HOLLYWOOD at its best never made a picture as real, as true-to-life as this display. For it's *more* than a picture—it has depth, body, perspective! So natural you're tempted to reach out and touch the food. It's done with a series of sparkling full color 3 dimensional photographs, ingeniously arranged and brilliantly lighted from behind.

This great new superstructure *clinches* sales with indirectly lighted, easy-to-read price cards. It's new, it's *exclusively* FRIGID-FREEZE, and it's available *now*—complete with cabinet or separately for mounting on your present FRIGID-FREEZE Cabinet!

Navy Frozen Food Ship Tries New Container

OAKLAND, Calif.—Three tons of fresh frozen fruits and vegetables were recently shipped from the Naval supply depot here to Guam in a Navy conducted test to determine the possibilities of transporting such foods to remote overseas bases and of using them on ships of the fleet at sea.

The frozen foods were packed in 30 experimental canvas covered containers, cork lined with zipper tops. Each container held 200 lbs. of food.

Using a refrigerated ship for transporting the foods, Naval officials said they hoped thus to retard defrosting of the food after its removal from refrigerators and prevent spoilage while the containers are being shifted from one storage place to another in tropical climates.

To eliminate cost and time of reshipping empty containers to supply depots, Naval officials said they were still seeking a satisfactory throwaway container.

Sterling Point Food Co. Acquired by Maxson

NEW YORK CITY—Maxson Food Systems, Inc. recently acquired the entire business, sales, and distribution setup of the Sterling Point Frosted Foods Co., frozen food distributor in this area.

The expansion move, announced John D. Small, president of Maxson, is expected to more than double his firm's sales volume.

Coming to Maxson as a result of the absorption will be Arthur Greason, Sterling executive, who will bring with him other key personnel.

W. A. Plumber Appointed Advance Electric Manager

COLUMBUS, Ohio—Advance Electric Co. here has announced recently the appointment of W. A. Plumber as its general manager.

Mr. Plumber was formerly with United Motors Service.

After-Hours Service Opens Big Market Among Office Workers for Frozen Food

SEATTLE, Wash. — A huge new market for quick frozen foods, consisting of office workers who have little or no time to shop during regular store hours, has been opened up by the Bon Marche Department store here, who has extended frozen foods order and delivery service until 9 o'clock each evening.

One of the first department stores to set up the Frostmaster system of handling frozen foods, and delivering them direct to customers' home freezers, the Bon Marche has found that it was for the most part, unable to serve the customers who actually need frozen foods most—downtown office workers who appreciate the convenience of merely popping frozen foods into the oven or utensils to prepare a tasty meal on short notice.

Such workers, it was found, likewise were not able to take advantage of special sales, and price promotions, because they could not reach the store before its closing time.

Now, however, although the store closes at 6 o'clock, a telephone girl is on duty, accepting frozen food orders up to 9 each evening. Thus, the office worker can scan a weekly newspaper advertisement, pick out the values she most wishes to purchase, and dial the store, giving orders for delivery.

Delivery is made the following day in most instances—the store having set up a plan whereby delivery men may enter the home, stock the home freezer, leave a notice without necessity of the customer being home.

The after hours service, say store officials, has helped the store to beat one of its most serious problems—how to clean out overstock surplus supplies of some frozen foods items which otherwise would have required marking down to "distress" levels.

McGuigan Maps Expansion For Ebco Frozen Foods

CHICAGO — James V. McGuigan, recently appointed executive vice president of Edmanson Bock Catering Co. here, processors of "Ebco" frozen foods, has set into motion plans for the expansion and reorganization of plant operations to support the firm's processing activities, it was announced here.

Mr. McGuigan, who only last year joined Edmanson Bock as frozen foods division manager, is also said to have plans underway for merchandising, promotional, and advertising campaigns and for the designing and packaging of the frozen products.

The "Ebco" line consists of frozen specialty hot dishes and bakery goods, prepared from recipes favored by the firm's catering customers.

Customers Can Cut These Frozen Fillets to Size

BOSTON—Packaged frozen fillets of cod and haddock, consisting of a single piece of fish flesh that may be cut by the consumer into portions of any size, are being introduced by the Atlantic Coast Fisheries Co. here.

Each fillet will weigh one pound and will measure 8 x 4 x ¾ in., Edwin H. Cooley, president of the firm, declared. It can then be sliced into any size portions and cooked without defrosting, he added.

Fedders-Quigan Net Profit Gains Sharply Over 1946

BUFFALO — Net profits of the Fedders-Quigan Corp. here, after charges and federal taxes, were 13 times higher for the first quarter of 1947 than for the same period of 1946, figures released by the company show.

Net profit for the quarter ending March 31, 1947 was reported to be $327,964, while for 1946 it was $24,089. Sales for the comparable periods were $4,251,073 and $1,898,436, according to the company.

For the month of April, 1947, net profit was $135,689 and sales were $1,735,015. For the same month last year, net profit was $34,900 and sales were $941,075.

Hurd and Watts Operating Stratford, Oklahoma Locker

STRATFORD, Okla.—The H & W Lockers frozen food plant has been opened here with Lee Hurd and Roy Watts as owner-managers, representing a $20,000 investment.

Stopped....Looked....and Cheered!

ANOTHER FRIGID-FREEZE EXCLUSIVE!

The most revolutionary merchandising method ever found for selling frozen foods!

NEW FRIGID-FREEZE 3 DIMENSIONAL DISPLAYS

BRAND-NEW MULTI-PURPOSE CABINET...

FOR FASTER SERVICE, MORE SALES!

The remarkable three-dimensional superstructure *attracts* customers — the cabinet helps them select their frozen foods *fast;* keeps traffic flowing. The non-fogging THERMOPANE glass doors enable the customer to *see* the particular packages wanted . . . and during peak shopping hours, the doors can be removed quickly and easily for fast-moving self-service. Actually, it's a complete sales and service unit! It creates buying interest, closes the sale and delivers the goods — all *you* do is rake in the profits!

Models immediately available for use in supermarkets, meat, and fish markets, ice cream and other frozen food stores — see your FRIGID-FREEZE representative or write for details *now!*

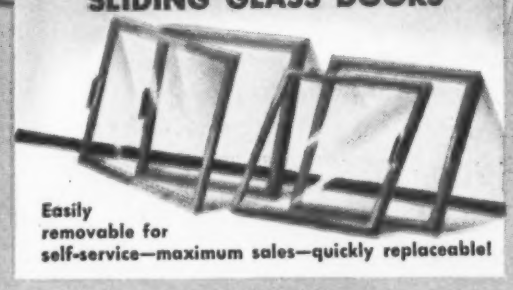


Illustrated, FRIGID-FREEZE Cabinet No. G-1046 equipped with 99-3 superstructure.

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Retail Price, Complete F.O.B. Factory

SLIDING GLASS DOORS



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Many Problems Confront Commercial Outlets, But These Can Be Licked, Distributors Told

Pattern of Industry Traced by Stelpflug

By C. Dale Mericle

DETROIT — "There are too few men in the refrigerated fixture business who actually understand the business. Many of the men do not understand the problems of overhead and are not familiar with sound business practices."

This was one of the points emphasized by W. J. Stelpflug, vice president of Hussmann Refrigeration, Inc., St. Louis, in his talk before a recent meeting of the Food Equipment Dealers Association of Detroit at the Fort Shelby hotel here.

Outlining many of the problems that confront the fixture distributors today, he wove his discussion around the theme that distributors can improve the whole fixture industry through joint activities in an association such as the Detroit group.

"This movement for distributor organizations is the finest thing that ever happened to this industry, but don't expect it to accomplish all its objectives overnight," he cautioned.

"There have been a lot of things wrong with the industry, not only at the manufacturing level, but at the distributor level as well," he commented as he proceeded to recount the industry's pattern of growth.



P. E. Daubenspeck, Jr. (left) is president of the Detroit dealer group which heard W. J. Stelpflug (right), vice president of Hussmann, outline problems in the commercial refrigeration field.

"The industry started out with specialty selling of cash registers, scales, fixtures, and the like. In those days the specialty salesman had to walk into a store cold, create interest in his product, and stay there until he got the order. This was strictly high pressure selling. Mostly it was clean selling, but some of it was dirty.

"In the next stage we saw the industry put the condensing unit in the fixture and the salesman now sold a complete job, and the distributors added such things as counter equipment to their lines.

"In some ways the business started on the down grade at this point," continued Mr. Stelpflug. "The specialty salesmen were worn out, and equipment manufacturers tried to change these old specialty men into 'business' men. This was a tough job, for these specialty men knew nothing about bookkeeping, overhead, etc. The ethics of the industry at this stage were generally bad.

"We're only entering the third stage of industry development now. In this stage the fixture men will be sound business men operating legitimately with good ethics and earning respect for the business.

"The time is ripe for that stage, and I'm convinced that a wonderful future exists for the industry. But," he warned, "unless fixture men assemble in associations like this, we may all slip back into the old ways. You should back an association to save yourselves.

"I think you fellows are fortunate to be in the fixture business. And fixture men have contributed a lot more to the industry than they think they have. For example, they have greatly influenced trends in food merchandising.

"It was the fixture men who awakened food store men to the need for better merchandising. Recently, the food wholesalers have done a lot along these lines, but in the early days it was the fixture men who needled the storekeepers into improving their stores.

"I'm interested in having sound distribution in the industry as a whole, because I don't want to go on fighting to make a living in a losing industry," emphasized Mr. Stelpflug.

"I want prosperous competitors. A prosperous competitor doesn't go out lying and cheating to make a sale. It's the fellow who isn't prosperous who'll hurt you. Just as bad money drives good money out of circulation, bad competition drives out good competition.

"You naturally wonder how an association of fixture distributors can control ethics and business practices," he continued. "You can't, of course, get together to fix prices and deals, limit territories, and that sort of thing.

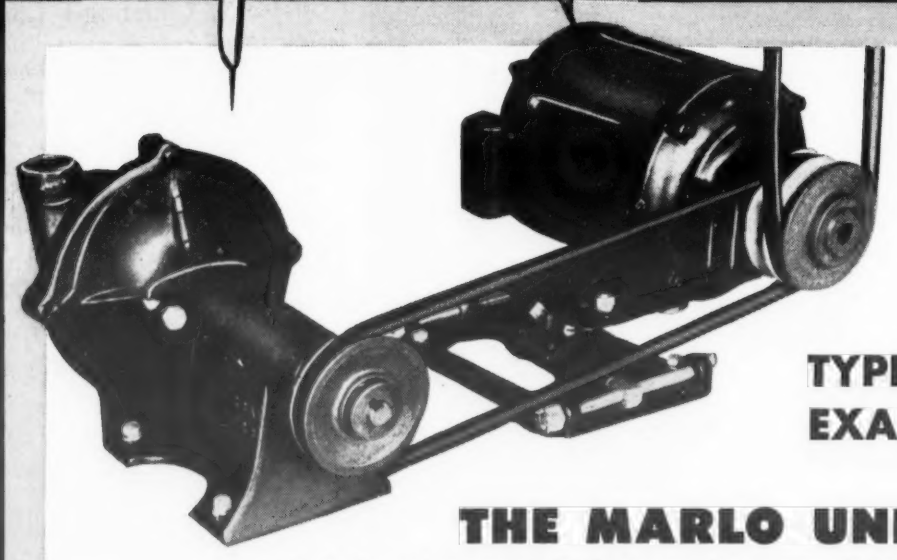
"But while you cannot fix prices, you distributors can discuss pricing, terms, etc., as long as you don't conspire to fix prices.

"Competition should always be geared to sell products at the lowest possible cost compatible with sound business practice. Competition is necessary and it should remain sound. But if you can't meet sound competition, you'd better get out of business," he declared.

"There are," he admitted, "a few

(Concluded on next page)

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Here's what STERLING JUNIOR is: a triple-coated porcelain case that refrigerates, displays, and stores produce efficiently, attractively, compactly.

Here's STERLING JUNIOR'S Sunday punch: it's *counter-high*—offering the wrapping space so important to the small store or small department operator.

Here's your smart move: Meet the demands of your *big market—the small-store market*—by stocking, showing, and selling STERLING JUNIOR, the counter-high refrigerated display case.

STERLING JUNIOR is nationally distributed and nationally accepted. A few territories are yet available for progressive dealers. Write now for full details.

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'Just What Do You Expect To Accomplish With Price Cutting?' Fixture Men Asked

(Concluded from preceding page)

high points in the industry that could be straightened out to make it a nicer industry to work in."

One of these problems relates to the type of service which is performed by (1) the distributor who buys outright and maintains a complete service organization for his customers; (2) the dealer who has no service setup, and (3) the commission salesman who operates out of his portfolio and likewise offers no service.

"If you all discussed these points openly you'd realize the position these factors occupy in the industry. I think that the trouble is that all of these outlets are not honest with the ultimate buyer in explaining their setup," suggested Mr. Stelpflug.

Buyers Differ In Demands

"Another problem is the lack of understanding of the different types of buyers there are for your products," he continued. "These different types of buyers want different types of service from you and a different set of prices.

"The little corner grocery store operator, for example, who wants to buy a fixture must have complete help from you. He doesn't know how to go about buying a fixture from the manufacturer, or getting it delivered and installed in his store, or how to finance it. He needs a complete service. He needs a distributor.

"A second class of buyer is one who may buy several pieces of identical equipment for installation in several stores. He knows pretty much just what he wants, and he is entitled to a lower price.

"But the main question here is just how much below the price that the corner grocery would pay should this buyer pay.

"For the answer to this," advised Mr. Stelpflug, "you should study the figures on commercial refrigerator sales operation that were prepared by Dun & Bradstreet. [These figures were discussed in considerable detail in the Aug. 5, 1946, issue of the NEWS.]

"If you'll take the various items of overhead involved, you'll plainly see that there are just certain items that can be ignored in a sale to this second class of buyer. This should indicate how much of a discount you can allow."

At this point Mr. Stelpflug cautioned the Detroit fixture men to remember that the Robinson-Patman Act requires that a seller must offer the same product to the same class of buyer at the same price.

"In the third class you'll find buyers with a still larger operation who have their own purchasing department, their own store planning men, and installation and service crews. These buyers need very little help from the distributor and are thus entitled to a larger discount. But, again, be sure to study those Dun & Bradstreet figures carefully in determining the size of their discount.

"The biggest chain stores make up the fourth class of buyers. These organizations are big enough to start up their own fixture factories, if necessary. All they want is the product, and the distributor hasn't one thing on earth to sell to this class of buyer.

Co-ops May Cause Grief

"And the fifth class of buyer—one which is growing—is the 'voluntary' or co-op groups," he continued.

This group, if sales are not handled properly, may cause considerable grief to fixture distributors, he indicated.

"Even today," he commented, "there are distributors offering 25% to 30% discounts to voluntary groups. You don't save on selling costs to that degree. The problem gets down to the amount of service demanded of the distributor by the individual buyer.

"If you should make any deal with a voluntary group be sure to check to see if headquarters actually controls the individual stores. Except as the headquarters acts as direct salesmen for you, you can't save another demand for your services. If the individual store in a voluntary group is not controlled and you have to provide the complete selling service, you're cutting your own throat if you give them large discounts," averred Mr. Stelpflug.

Another group that may enter the picture is the wholesale grocer, he declared. The wholesaler grocer has seen his customers buying a lot of equipment and may want to get into the fixture business.

"We can't prevent him from entering the fixture business, and I'm not against it, if he's prepared to set up a sound operation keeping accurate records of his costs. Where they get into trouble, however, is in believing they can sell fixtures with the same low overhead as on groceries.

"When some wholesale grocer tempts you, show him what he has to do, and unless he's prepared to set up a sound fixture business you can talk him out of going into this end of the business," he suggests.

"Another important issue is price cutting," he continued. "Now just what do you expect to accomplish with price cutting? You can't increase sales of fixtures that way.

"In the household refrigerator field price cutting may be a different matter. By lowering costs and prices you may be able to bring the refrigerator down to a new market, but this is not true in the fixture business.

'You'll Make Less Money'

"If you start cutting prices on one sale, your competitor will cut on the next one, and by the end of the year you'll find that you haven't made any more sales, merely less money. Also, when you hear that a competitor has cut prices, never fail to understand that different types of buyers and services may warrant different prices."

Veering to another topic, Mr. Stelpflug commented, "I don't see as many young fellows in this business as I'd like to. We've had the experience in recent years of looking in our organizations for young men to promote and being unable to find them.

"But if you fellows who are distributors mean to stay in this business and make a success of it, you'd better give serious thought to getting young men into your business. You'll have to think also of a compensation plan to pay them. And you'll have to train them.

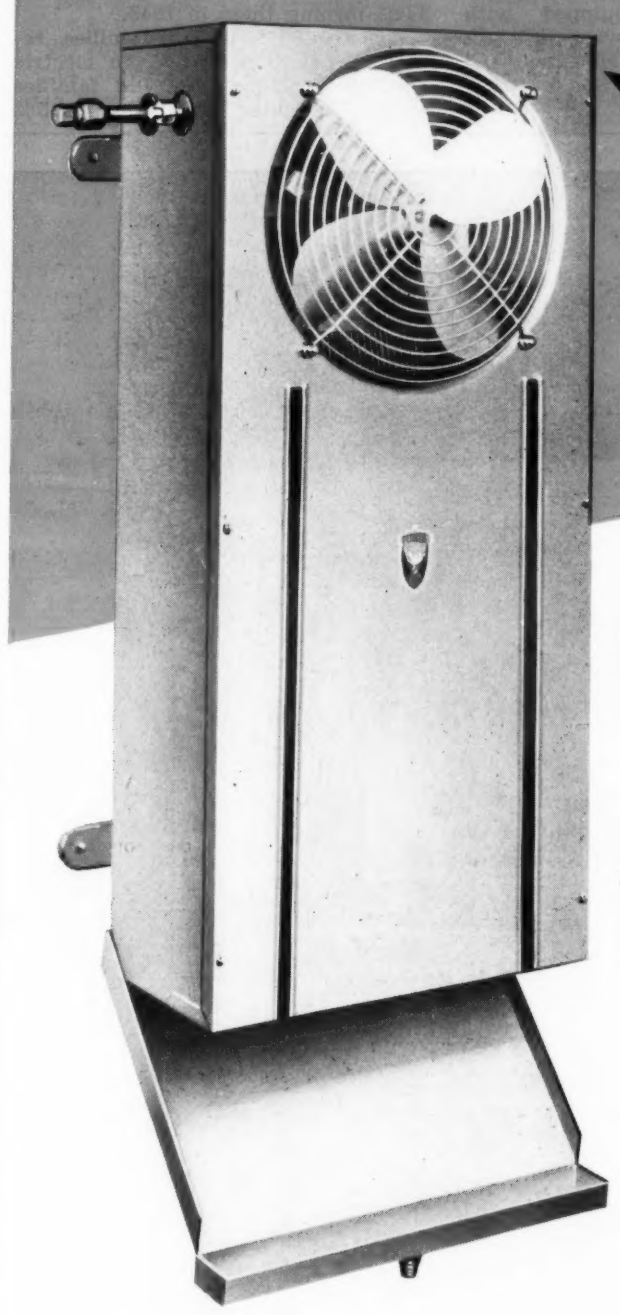
"These compensation plans should not be a commission. I hope all salesmen will refuse to work on a commission deal," he declared. "I've seen too many men made into bums through the commission plan. We've learned from our own branch operations that we can pay salaries and incentives which will attract and keep good men who'll bring in clean deals."

Still another important problem confronting distributors, according to Mr. Stelpflug, is their present financial structure.

"If the manufacturer you represent isn't giving you sound help on your financial structure, you should force him to do it," he advised. "Another way would be to check with your banker or a qualified auditor.

"But don't try to do more business than your capital permits. We also don't want to see you distributors build up too heavy inventories.

"And you distributors want to remember that you don't gain anything individually if your competitor goes broke and dumps distress merchandise on the market.



GUN COOLERS

● First as usual, Peerless conceived, created and now further improves the Gun Cooler line! Here is refrigeration as easy to install as hanging a clock. All engineering is done at the factory! Revolutionary, proved successful in thousands of installations, it reverses operation of conventional blower-type units, performs in upside-down fashion! Warm air is drawn into the grill at top of cooler, pours gently out the bottom chilled to the proper degree, absorbs heat from the stored products and rises to be re-chilled by the Gun Cooler. A sound, effective cooling cycle!



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● *For superior performance specify all these PEERLESS products: Flash Plates, Flash Coolers, Unit Coolers, Ice Cube Makers, Fin Coils, Off Center Coils, Expansion Valves and Capacity Boosters. Write for details.*

LARGE CAPACITY UNIT COOLERS

● Designed especially for installations requiring large refrigeration capacity in a minimum of space, these models are made long and narrow. They fit closely to the refrigerator ceiling, save storage space and reduce possibility of air being blown directly on the stored product. A typical Peerless product in attractive styling and painstaking workmanship.



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Dealer's Survey of 'Waiting List' Shows Most Prospects Still Want Appliances

INDIANAPOLIS—More than half the major appliance prospects on the waiting list of the White Equipment Co., General Electric dealer here, are still in the market for appliances, a direct mail survey conducted by the firm revealed.

Out of the 494 prospects queried, some dating as far back as Oct. 17, 1945, 325 mailed back the questionnaire, the company reported. Of these, only 147 had secured deliveries elsewhere, six had purchased their desired appliance at White's store but their names had not been deleted from the list, and three were no longer available.

All the remainder indicated that they were still interested, either immediately or at a later date, in the appliance they had asked for or for other appliances, the results of the survey indicated.

In addition, the company said, other customers who did not return the questionnaires dropped into the store personally to say that they still wanted their original appliance or a different one.

The questionnaires, printed on two-cent government postcards, asked the prospects if they still wanted to be kept on the lists, if they had secured delivery elsewhere, if they would be interested in White's appliances in the future, or if they were interested in another appliance.

The following is a summary of the results:

RESPONSE		
Total mailings	494	100.0 %
Returns received	325	65.8 %
Misdirected	1	
No response (by mail)	169	34.2 %
REPLIES		
Secured delivery elsewhere	147	45.23%
Please keep me listed	121	37.23%
Not interested now	29	8.92%
Not interested but want some other product we sell	10	3.07%
Not interested now but may be later. (Dates given.)	9	2.77%
Secured here. (Not deleted from lists)	6	1.85%
Addressee not available. (Moved out, etc.)	3	.92%
Misdirected	1	
TOTALS	326	100.00%

From this survey, which the company said, costed less than $50 to conduct, the prospect list was cleared, enabling the dealer to hasten delivery to confirmed customers by eliminating needless calls at time of delivery.

Further, by comparing the response to product listings (refrigerators, washing machines, ranges, etc.) White's had a clearer picture of its needs and its patrons' demands.

The most wanted appliances, it found, were refrigerators, ranges, washing machines, and automatic water heaters, in the order named.

Best result obtained from the survey, the dealer believes, is the customer good will and confidence engendered. Many customers were pleased to find that their prospect cards had not been tossed in the waste basket long ago and that they will still being considered for available appliances, he indicated.

In addition, the company declared it received enough additional prospects for other appliances to cover the cost of the whole project.

Mailing of the questionnaires was done in small daily quantities. Returns were received almost immediately, the dealer asserted.

Bendix Keys Washer Inventory to Extent of Home Building In Area

SOUTH BEND, Ind. — To assist builders in providing appliance-equipped homes for war veterans, Bendix Home Appliances, Inc., has made available to its distributors a "floating" inventory of Bendix automatic washers. Its size is related to each territory's market potential.

"As quickly as a GI home is completed, a Bendix washer is available for installation," said Grant Layng, manager of the apartment house and builder division.

Since inauguration of the allocations to builders in January, Bendix Home Appliances, Inc., has supplied automatic washers for a large number of GI homes, Mr. Layng said. Two of the large home-building developments being equipped with Bendix automatic washers are Gregory Homes in Houston and those of W. H. Levitt & Son, environs of New York City.

Big Gain In Popularity of Automatic Washers Noted by 'Milwaukee Journal' Poll

MILWAUKEE—Tremendous gains in the popularity of automatic electric washing machines were noted in a consumer analysis of the greater Milwaukee market conducted early this year by the *Milwaukee Journal.*

The analysis found that 41.2% of the families interviewed indicated that they would buy a fully automatic washing machine to replace the machine they had.

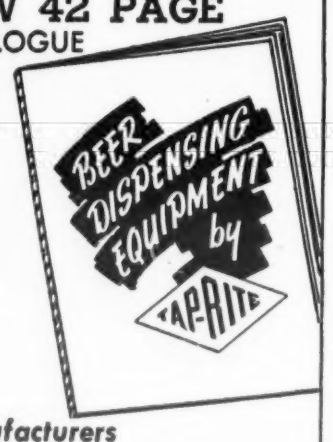
The survey further found that 8.1% of greater Milwaukee families now own fully automatic washing machines as compared with only 1.5% in 1945. The number of families involved, as projected by the Journal from the percentage figures, would be 17,024 now owning automatic washers as compared with 3,093 owning them in 1945.

Exactly 90% of all families reported that they owned an electric washing machine. Of the families owning washing machines, 80.5% had the wringer type, 10.9% had the spinner type, 8.1% had the fully automatic, and .6% didn't know what type they had.

Broken down by income groups, the *Journal's* figures showed that 92.9% of families paying $50 or more rent per month owned electric washing machines. These percentages gradually declined as income declined so that 90.6% of the families paying $40 to $50 rent had electric washing machines, 89% of those paying $30 to $40 had them, and 84.5% of those paying under $30 owned machines.

When replacing their electric washing machines, 41.2% said they wanted a fully automatic job, 36.2% wanted the wringer type, 20.1% desired the spinner type, and 2.5% just didn't know. Most pronounced increase in desire over 1945 was for the spinner type with an advance of 4.1%, the survey showed.

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Where Does the Refrigerator Market Lie?

To back up his contention before the House Ways and Means Committee that appliance excise taxes should be eliminated or applied equitably, C. T. Lawson, vice president of Nash-Kelvinator Corp. and chairman of N.E.M.A.'s Excise Tax Committee, revealed valuable market data. Some were published last week; here are more.

* * *

Before the War Most of the New and Replacement Refrigerators Were Bought by Lower Income Families

Tabulated from APPENDIX H and I

	National Brands	Mail Order	Replacement Sales
Unskilled, Semi-skilled, and Skilled Labor	43.2%	49.8%	32.2%
Clerical Workers, Salesmen	17.6%	17.4%	15.8%
Small Storekeepers, Store Managers, etc.	18.8%	18.9%	24.0%
Executives, Professional, etc.	15.4%	10.7%	22.9%
Other Purchasers	5.0%	3.2%	5.1%

Number of Weekly Paychecks to Buy a Refrigerator

APPENDIX K

	1926	1931	1936	1941	1946	1946
Weeks Work	15.1	11.7	7.3	5.0	4.5	4.6
Weekly Earnings	$26.00	$22.02	$22.60	$31.08	$42.67[1]	$45.41[2]
Refrigerator Price	$390.00	$258.00	$164.00	$155.00	$190.75[3]	$210.00[4]

[1]March, 1946. [2]September, 1946. [3]Estimated September, 1946. [4]January, 1947.

Biggest market for electric refrigerators lies in the lower income groups, he said, as indicated in Appendix F, G, H, and I. And through the years the worker has needed fewer and fewer paychecks to buy a refrigerator. See Appendix K.

Manufacturers' estimates of the probable refrigerator market appear in Appendix L. From the 21,000,000 in use Jan., 1947, the total is expected to hit 29,000,000 to 31,400,000 in five years. This includes five-year sales of from 16,000,000 to 21,000,000.

* * *

Optimistic and Conservative Refrigerator Possibilities

APPENDIX L

OPTIMISTIC Assumes Full Employment

(Figures Are In Millions)

	1946	1947	1948	1949	1950	5 Years
Refrigerators in Use (first of year)	21.0	22.6	24.4	28.0	30.9	21.0
ADD, NEW SALES	2.1	4.0	6.0	5.5	3.5	21.1
LESS, JUNKERS	–0.5	–2.2	–2.4	–2.6	–3.0	–10.7
Refrigerators in Use (end of year)	22.6	24.4	28.0	30.9	31.4	31.4

CONSERVATIVE Doubts that the Millenium Is Just Around the Corner

	1946	1947	1948	1949	1950	5 Years
Refrigerators in Use (first of year)	21.0	22.3	24.8	27.1	28.5	21.0
ADD, NEW SALES	1.8	3.5	4.0	3.5	3.2	16.0
LESS, JUNKERS	–0.5	–1.0	–1.7	–2.1	–2.7	–8.0
Refrigerators in Use (end of year)	22.3	24.8	27.1	28.5	29.0	29.0
Replacement Possibilities	70%	72%	80%	85%	90%	Date 8/6/46

Prewar Purchases of Refrigerators Were In Low Income Groups

APPENDIX F

The conclusion that the tax is discriminatory, particularly in the lower income groups, is further emphasized by the fact that the lower income groups before the war were buyers of electric refrigerators.

Based on prewar incomes, 16,820,000 families had incomes over $1,000 a year. The census of refrigerators in use April, 1940, was 16,000,000. This figure includes all mechanical refrigerators in use of which 15,000,000 or 95% were electric refrigerators.

With the postwar upgrading of lower income groups, within five years there probably will be 30,000,000 refrigerators in use and most of these sales will go to the lower income levels.

Large Percentage of Low Rent Payers Buy Refrigerators

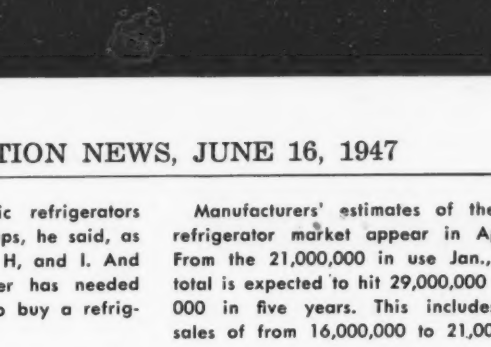
APPENDIX G

In Columbus, Ohio, lower income groups bought electric refrigerators in large quantities before 1940. The following table shows selected April, 1940, census tract figures on refrigerator ownership compared with monthly rental values of homes.

Rental Value	No. of Dwellings	No. of Refrigerators	% Owning
$15 to $25	10,453	3,331	31.9
$25 to $30	12,544	6,172	49.2
$30 to $35	14,572	8,094	55.5
$35 to $45	25,788	16,080	62.4
Over $45	5,051	3,949	78.2

There is no question that persons paying monthly rents of less than $30 are in the low income group. Yet almost 50% of those paying rents from $25 to $30 and 32% paying from $15 to $25 rents owned refrigerators.

For low income groups to own a high cost item such as the electric refrigerator must demonstrate the necessity of this taxed article.



Announcing!

NEW FRIGIDAIRE "COMPACT-SIX"

This new Frigidaire "Compact-Six" has trim, sleek lines in a completely new design. The "Compact-Six" was conceived, designed and built to meet today's demand by owners and builders of small, low-cost homes for greatest usability in the smallest kitchen area.

OUTSIDE A 4-FOOTER INSIDE A 6-FOOTER

Outside, the Frigidaire "Compact-Six" requires no more floor space than conventional four-cubic-foot refrigerators. Inside, there's 11.6 sq. ft. shelf area, 1-piece porcelain liner with stainless porcelain bottom, 15 lbs. frozen food capacity, Quickube Trays, Frigidaire acid-resisting porcelain Hydrator, and aluminum storage tray.

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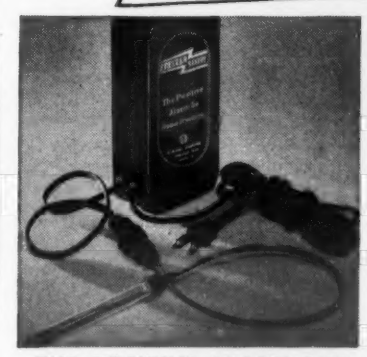
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New West Coast Electrical Group Collects Data on Costs of Local Dealer Operation

SPOKANE, Wash. — Something a bit different in the way of trade associations has been organized just recently in the Pacific Northwest's Inland Empire. It is the Inland Empire Electrical Dealers Association.

Though, as the name implies, appliance dealers comprise the greater portion of its membership, the association encompasses all elements of the electrical industry, according to its executive secretary, Robert L. Wilkinson.

On its roster are wholesalers, manufacturer's representatives, a power company, electrical contractors, wiremen, plumbers who sell electric water heaters, fuel dealers who sell automatic heating equipment, and others who have an interest in the industry.

The association has a headquarters chapter here and local chapters in Pullman, Lewiston, Coeur d'Alene, and Davenport. Smaller district groups have been organized in some areas of the 40,000 sq. mi. Inland Empire to facilitate frequent meetings for the discussion of local problems and the presentation of beneficial programs.

Although only a few months old, the organization has already begun a cost ratio for the area. The results lished a monthly news letter, provided its members with a merchandising budget sheet, and given them a kit of identification materials.

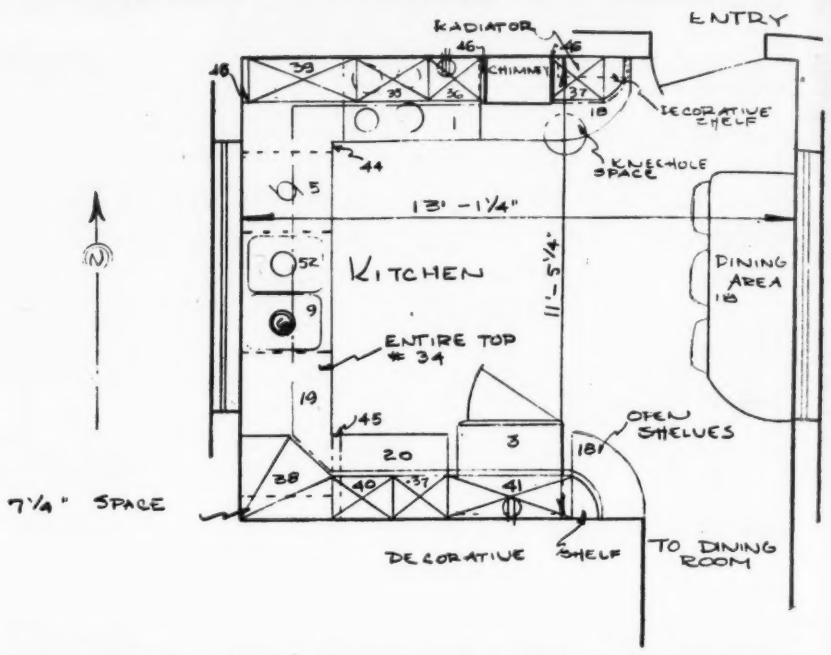
The kit contains a membership card, a copy of the association creed which can be hung in the business establishment for perusal by customers, a decalcomania emblem, and a decal display arrow which draws the customer's attention to the emblem and its meaning.

The cost ratio survey is intended to gather information on the net sales, cost of goods sold, operating expenses, and net profits of members on a quarterly basis and to consolidate this information into an average cost ratio for the area. The results will be compared with averages on a nationwide scale and ratios will be recommended for most profitable operation.

In their seven point creed, members of the association have subscribed to the principles of studying the appliance business and promoting good will and understanding between all elements of the electrical industry, making all retail sales through all elements of the electrical industry, making all retail sales through retailers, treating the customer fairly and not resorting to the use of "excessive trade-ins," maintaining adequate service facilities, opposing the practice of "trade diversion," conforming to and supporting fair trade laws, and foreseeing and forestalling economic and trade evils as they arise through organization.

In addition to projects already started, the association has a broad program of future action planned.

Typical 'Personalized' Kitchen



This design for a typical "Personalized" Kitchen is the end-product of Hotpoint's new policy of having the dealer lay out a kitchen according to the particular requirements of the locality in which the consumer lives. Numbers in the plan are keyed to a detailed list of recommended equipment which the dealer uses in mapping out the kitchen. On this list he specifies the quantity, description, and type of unit desired for each part of the installation.

* * *

Hotpoint Encourages Dealer To Adapt Kitchen Plans to Local Conditions

CHICAGO — New studies on all-electric kitchen installations aimed at bringing appliance dealers' thinking and methods "into focus with today's conditions" have been completed by Hotpoint Inc., states Leonard C. Truesdell, vice president of marketing.

That appliance dealers can procure orders for complete kitchens, both for new houses and remodeling has been demonstrated during the past year, he said, adding that procedures for dealer planning and installation of complete kitchens are now taking shape.

Most Homes Under $10,000

The new information disclosing results of tabulations of 1,000 consumer requests for all-electric kitchen plans, shows that more than 65% place a valuation of less than $10,000 on their properties. The orders examined were taken at random from approximately 7,500 plan requests received during the past two years.

Asserting that the average family thinks of a new home in terms of $10,000 or less, although today's conditions in construction costs have apparently forced average home prices above that figure in most parts of the country, Mr. Truesdell said that "indications are that kitchen planning should be done in local communities where smaller volume and on-the-spot planning permit rapid changes to meet market conditions."

Planning Decentralized

To meet this situation, he said that Hotpoint will shift emphasis from past efforts to plan kitchens at one national headquarters to specially trained planning operations located in dealers' stores across the country. The Chicago headquarters will continue as a planning center, with classes for dealer training, augmented by dealer-aid extension courses, as its principal function.

The official said that there is no single "correct way" to plan and install an all-electric kitchen. Each dealer will find that circumstances surrounding his type of retail operation and other local conditions will determine how he can make the most money out of an all-electric kitchen business.

Of the 1,000 homes studies, he said that 4.7% were valued at less than $5,000; 63.1% between $5,000 and $10,000; 25.6% between $10,000 and $20,000; and, 6.6% above that figure. To balance the research geographically, 303 reports were picked from the eastern region file; 338 from central region; 187 from southern region; and, 172 from the western area.

New house plans were studied for 48.2% and remodeling projects for 51.8%. Mr. Truesdell said that more than 200,000 kitchen plans, including a "stock plan" had been sent to consumers since 1944 and that those requests indicated an equal division of new and remodeled housing among those seeking electric kitchen information.

Personal Data Helps Out

The general instruction sheet supplied by Hotpoint with its planning guide, "Your Next Kitchen," provides a space for the consumer to supply personal data to assist the planning department. A question asking the number in family brought these responses from the 1,000 orders tabulated: Two persons, 23.6%; three persons, 23.8%; four persons, 31.5%; and, five or more persons in 12.7% of the families.

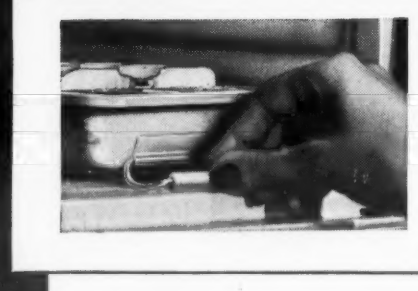
Eight per cent of the orders said that full-time maid service was available, while 11% marked partial. Less than 3% said that "amount of entertaining" was "extensive," while only 1% ignored the question.

All kitchens studied required some type of kitchen eating facilities, while 53.6% specified a "snack bar" or "nook." The form used included a space to list "equipment under consideration." Here 87% checked an automatic electric range; 61% refrigerator; and 37% signified an automatic dishwasher.

Sixteen other questions concerned with sizes of appliances, type of heating plant openings in rooms, and other construction information brought a wide variety of answers that did "not follow a predictable pattern," Mr. Truesdell said. He based his conclusion that dealers can best handle kitchen planning locally upon the disclosed wide variety of local conditions.

PLASTIC adds Arresting Beauty to the New INLAND HANDI-CUBE TRAY





The Handi-Cube Tray model illustrated combines striking beauty with sensational performance. Tray lifter is optional.

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Ready for a Thirsty Movie Audience



Three attendants prepare to serve their first customers at the Roxy Theater's new Coca Cola Bar. Note the under-counter stainless steel refrigerated cabinets.

* * *

New York City's First Refrigerated Theater Lobby 'Coke Bar' Is Installed at Roxy

NEW YORK CITY—First Broadway movie house to provide patrons with cold soft drinks served from a lobby bar is the Roxy theater which recently spent $25,000 to install a deluxe Coca-Cola bar cooled by a brine refrigerating system.

The installation of this equipment, which includes pre-cooling room, refrigeration unit, and soft-drink counter, may well lead to a host of similar setups in theaters throughout the United States and Australia, stated A. J. Balaban, Roxy executive general manager.

Set in a semi-circle at one side of the lobby, the 32-ft. Roxy soft-drink counter is decorated with fluorescent lights and overhanging draperies. Beneath the counter surface are five built-in stainless steel refrigerated cabinets which have a capacity of 1,500 bottles. Back of the bar is a pre-cooling room capable of holding an additional 10,000 bottles.

The refrigerating unit which services both the Coca-Cola counter and the adjacent cooling room is located in the basement of the theater. Here a 1½ hp. and a 3 hp. Copeland compressor are tandem-linked to circulate "Freon" through a brine chiller from whence it is pumped upstairs to the soft-drink cabinets and then to the pre-cooling room.

Chiefly responsible for the layout of the beverage counter is Arthur Knorr, art director and producer for the Roxy theater. Mr. Knorr emphasized, however, that the relatively high cost of the Roxy installation should not discourage smaller operators from inaugurating similar facilities in their own theaters.

Special construction of the refrigerating units, cooling cabinets, and pre-cooling rooms were among the major factors contributing to the overall $25,000 figure, he said. Smaller theaters, he pointed out, could build adequate counters for a fraction of the cost by utilizing standard equipment and building materials more readily available.

Here, briefly, is how the refrigeration system operates:

When the brine leaves the storage tank in the basement, it has been cooled to 12° F. Pumped at the rate of 30 gallons per minute, the coolant then circulates up through the stainless steel under-counter cabinets by means of coils which maintain a 35-40° temperature. From there the brine moves to the pre-cooling room. At this point fans blow air across the chilled brine tubes to provide a 40° temperature in the room.

Insulation for the pre-cooling room consists of 4 in. cork which covers the floor walls and ceiling. Over this cork is a thick coating of cement. Standard fixtures for the 14 ft. x 5 ft. pre-cooling room include a refrigerator door 6 in. thick, a vapor seal lamp, and pilot switch. The coolant lines are wrapped in burlap and asbestos.

Necessity for this indirect refrigerating system, theater officials explained, derives from the fact that local Fire Department safety regulations prohibits the use of refrigerant gases in public places.

Evidence that movie audiences would readily accept theater-lobby soft-drink service was drawn from recent tests made in Detroit and San Francisco theaters. Charles P. Skouras, president of the National Theaters Amusements circuit of some 600 movies houses, installed a Coca Cola counter in first-run theaters in each city. As a result, sales of the beverage in the Circuit's two test theaters have averaged 15,000 bottles weekly. Mr. Skouras indicates that similar soft-drink counters will be set up in member-theaters soon.

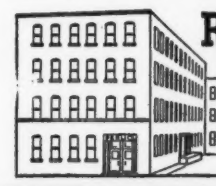
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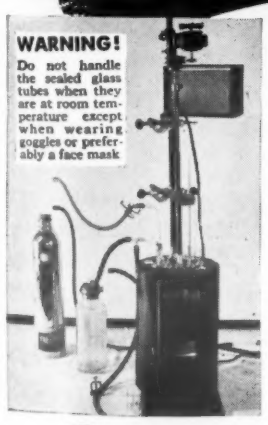


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The ANSUL Method of ANALYSIS FOR WAX in Oil-Refrigerant Mixtures





PREPARATION OF SAMPLES

1. The desired amount of refrigeration oil is placed in an ordinary glass test tube.
2. The upper portion of the test tube is carefully drawn to a capillary without deleterious effects on the refrigeration oil.
3. Connect the tube to a source of refrigerant desired.
4. By means of cooling the exterior of the tube, the refrigerant is drawn into the test tube to a predetermined mark which makes the concentration of oil in refrigerant desired.
5. Using a hand torch, the capillary neck is sealed off.
6. Place wire screen around sealed tube for safety.

OPERATION OF APPARATUS

1. After tubes are placed in the bath, the stirrer (*g*) is operated at a speed which insures uniform temperature in all parts of the bath.

2. Suction is applied at (*r*).

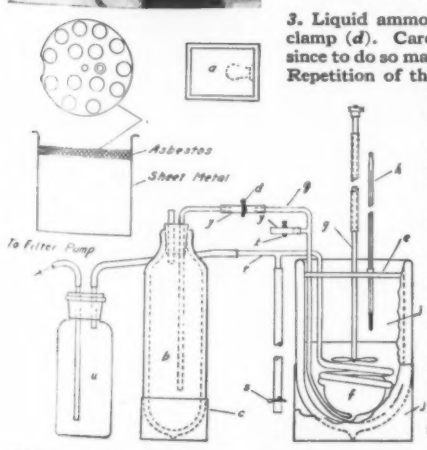
3. Liquid ammonia is introduced into the cooling coil by opening clamp (*d*). Care must be taken not to admit too much ammonia, since to do so may result in violent boiling and an unnecessary waste. Repetition of this operation will result in cooling the bath to the desired temperature. In order to stop cooling, the vacuum is broken by opening pinch clamp (*s*).

4. The temperature of the bath can be kept constant within 1° F. at any point between +60° F. and −95° F.

5. The temperature of the bath is decreased in 2° intervals, more or less, depending on the accuracy required.

6. Starting at −10° F. the temperature is kept constant for at least 8 minutes. The sample tube must not be disturbed during this time.

7. In order to detect wax when and if formed, the sample tube is taken out of the bath and examined in front of the light box or other suitable light source. Haziness must not be mistaken for wax separation. Normally the wax forms a floc.



ANSUL WHOLESALERS are ready and equipped to render an intelligent, cooperative service to refrigeration engineers and maintenance men on problems which arise from time-to-time in the operation of refrigerating systems.

FOR EXAMPLE: Samples of refrigeration oils, submitted by users of Ansul Refrigerants to Ansul Wholesalers, are tested by Ansul laboratories without charge by the Ansul Wax Determination Method. This method, developed and standardized especially for use in connection with oils used in refrigerating systems, provides an accurate determination of wax separating from oil-refrigerant mixtures at low temperatures.

For more complete information, send for ANSUL NEWS NOTES, Vol. 9, No. 3

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Modern production methods make Kerotest Valves and Fittings economical, too. Kerotest wants to assure you a fair profit ... your customer good value at a price he can afford. Next time you need valves, ask for and buy Kerotest!

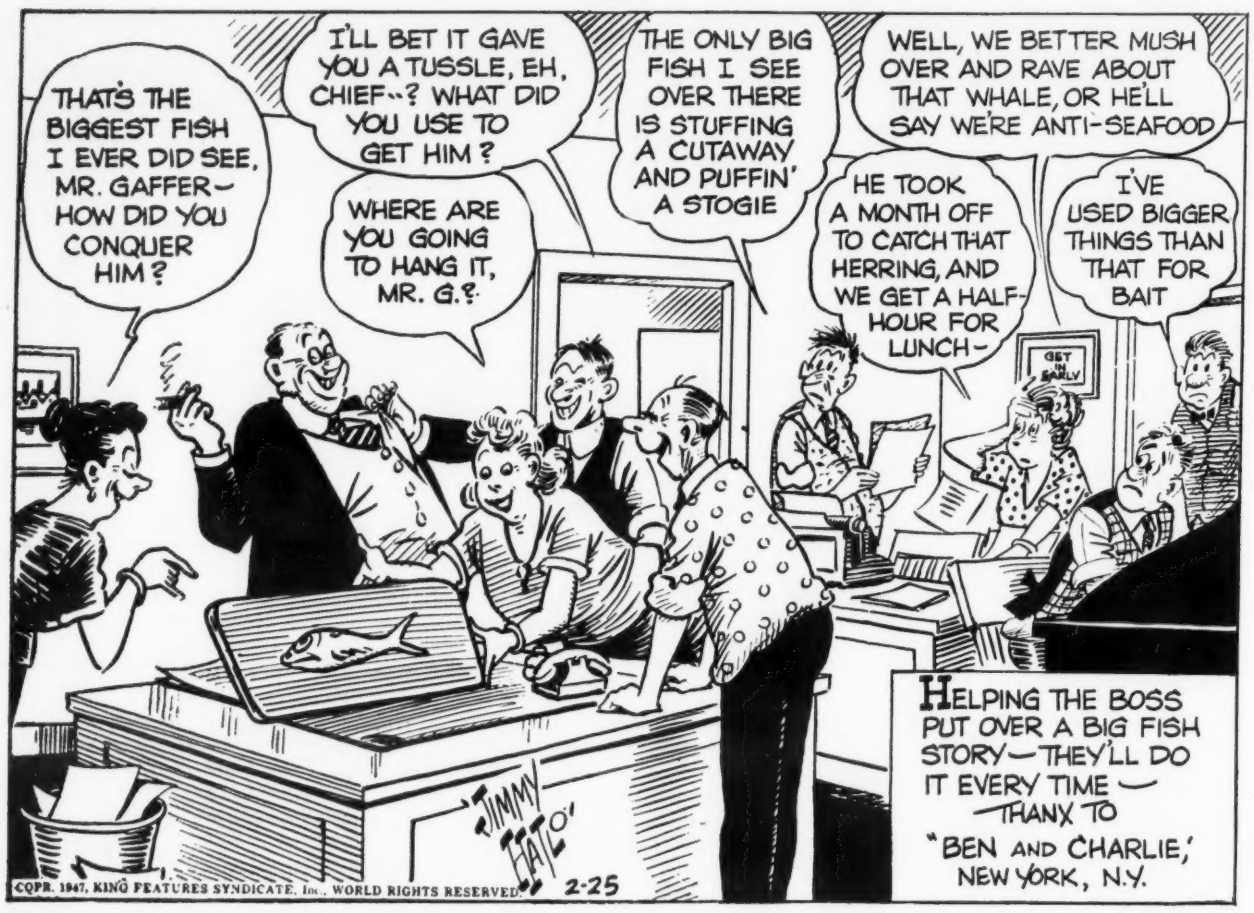
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AMERICA'S FIRST NAME IN QUALITY VALVES

They'll Do It Every Time . . . . By Jimmy Hatlo



Out With Special Privileges -- Revise the Wagner Act!

★ ★

Electromaster

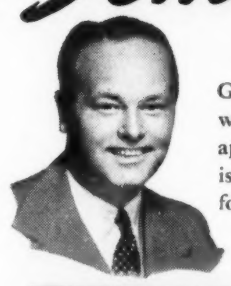
MEANS DESIGN LEADERSHIP

Today ... Tomorrow

● Electromaster ranges are modern, smartly styled and sturdily built. They provide a thrill for the homemaker who prizes beauty and utility in the kitchen.

Since 1929, Electromaster has been famous for design leadership. First with an all-steel range—first with all-porcelain enamel — first with table top electric range are a few outstanding examples.

With its new, modern plant devoted exclusively to electric range manufacture, Electromaster will continue to produce the finest electric ranges — with everything that's new, for the best in electric cooking.



George W. Walker, noted industrial stylist who has designed more than 2000 home appliance products now in everyday use, is exclusively engaged by Electromaster for electric range design.



The Space-Saver — a compact beauty for the small modern kitchen with big range cooking capacity complete with Vita-Miser deep well cooker.



Electromaster Banquet Model has everything. Warmer drawer. Built-in Minute-Master Timer. Ball Bearing Roller drawers. Fast Speed-O-Master units. Automatic control with Oven-Master clock. (Additional cost)

FINEST NAME IN Electric COOKING SINCE 1929

Electromaster Inc.

MT. CLEMENS, MICHIGAN

The Range That's "Fit For A Queen" on The "Queen For A Day", Mutual Network—Monday Thru Friday

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark registered U. S. Patent Office; Est. 1926

AIR CONDITIONING AND REFRIGERATION News

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F. M. COCKRELL, *Founder*

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VOLUME 51, NO. 7, SERIAL NO. 952, JUNE 16, 1947

When In Doubt, Advertise!

NOW that the post-war world has fallen so short of the Utopia which all of us dreamed it would be, we find ourselves in the midst of a muddled mess of insecurity.

Homes and durable goods, which are so sorely needed by millions of returning servicemen and their expanding families, are still almost as scarce as shade trees in the Sahara. Nearly all price-tags are bloated and extravagant. Another depression seems possible. And the golden hope of a perennial peace has dissolved into nationalistic antagonism, petty bickering, and frightful threats of further devastating wars.

What can we do to alleviate our troubles? How can we fix up "the fix we're in?" This answer may seem to be too "pat"—but it will solve nearly all those problems. Well-directed advertising is one obvious solution to the ills which beset our nation.

The free enterprise system is truly the basis of prosperity and peace for everybody and anybody, anywhere and everywhere. It is this free enterprise system that has bestowed upon America the highest living standards and the greatest personal freedom and prosperity which the citizens of any nation have ever enjoyed in all the recorded history of the civilized world. So, let's protect it here, and sell it abroad.

All advertisers in this screwy era—particularly those which can't keep up with their backlog of orders—might well occupy the space they purchase with trenchant essays exposing the reasons *why* Americans should count their many blessings.

Such a message can be condensed into readily-comprehensible form by the advertising practitioner, who has the occupational knack of batting out copy which attracts and instructs the collective eye and ear of the public. Because the advertising expert anticipates the wants and needs of the people he serves, he knows how to slant his copy directly toward the fulfillment of these desires. His message must, of course, be repeated and repeated again, until it penetrates into the mass mind and dwells long in the memory of the "common folk"—like the refrain of a haunting melody.

The reputation and friendships built up by your product are exceedingly pertinent to the acceptance of your philosophizing. Satisfied customers will respond admirably to economic and political preachments sponsored by a firm with whom they have had pleasant associations. Conversely, the good will created by your "Boost America" campaign should up your product sales, too. Example:

Public-spirited citizens in one midwestern city have organized a most successful advertising campaign extolling the advantages to be found in a free enterprise system. These ads are directed toward the local citizenry, and at their personal interests. They are sponsored by several of the city's leading corporations and—surprisingly—by its two labor organizations.

Theme of this cooperative campaign: All Americans should have the right to work, and to choose the type of work in which they find the most satisfaction. This "right" is fundamental; and its upholding has helped make our nation the most powerful and the wealthiest country in the entire world.

Today's scarcity of wanted goods has underwritten a letdown in salesmanship, promotion, and advertising efforts. But this situation is to be deplored. Although our current national income is immense, we must remember that it is not national income that creates sales. Conversely, sales create national income. And product advertising rightfully receives credit for creating the urge to buy which causes currency to flow.

Thus, advertising assumes an increasingly important role in our nation's economy when sales become difficult. So why not include within the limitless boundaries of the advertising function the job of educating the public as to the undeniable merits of the grandest economic system ever devised?



THE triumphs and troubles, the progress and problems of refrigeration are all reflected in the busy routine of your Refrigeration Equipment Wholesaler. The center and hub of refrigeration service in each community, he offers far more than easily accessible stocks of hard-to-get parts and supplies. He offers, as well, knowledge, experience, cooperation in service problems, and a zealous regard for the welfare, business problems and success of his friends and customers. These are the thousands of Refrigeration Service Engineers who maintain the nation's refrigeration systems day in and day out.

You may depend on your local Refrigeration Equipment Wholesaler for an increasing high standard of service and the best and latest in Refrigeration parts and supplies.



SUMMER SERVICE TIPS

Peak Summer Load on Refrigeration just ahead! Time for thorough system overhauls.

Improve multiple systems in soda fountains, meat markets, beer depots — with

A-P *Dependable* Model 235-S — Suction Pressure Regulating Valve

When you need faster, closer, more accurate control of evaporator pressures — or must operate two or more evaporators at different temperatures from a single condensing unit — the A-P Model 235 Suction Pressure Regulating Valve is indispensable. Maintains constant pressure regardless of load change. Can be adjusted to system immediately, with adjusting knob and graduated collar — no waiting for system to settle down. An exclusive time-saving feature.

Put the Model 235-S to work on *your* systems — for greater customer satisfaction. At your wholesaler — or write for bulletin M110.

AUTOMATIC PRODUCTS COMPANY

2450 NORTH THIRTY-SECOND STREET • MILWAUKEE 10, WISCONSIN

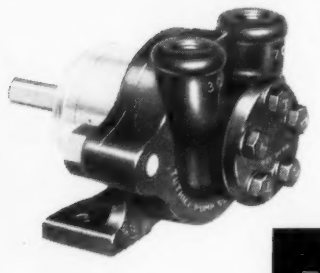
DEPENDABLE REFRIGERANT VALVES

STOCKED AND SOLD BY GOOD REFRIGERATION WHOLESALERS EVERYWHERE • RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

PRESSURE LUBRICATION MADE EASY



For dependable pressure lubrication, you can't go wrong with Tuthill Model L pumps. These internal gear rotary pumps are mechanically sealed to give quiet, leakfree, long-life service at low cost. Capacities up to 3 g.p.m. in wide pressure ranges. Ring or foot-mounted with many porting arrangements. Write for Tuthill Model L bulletin.



TUTHILL PUMP COMPANY
939 East 95th Street • Chicago 19, Illinois



OUTSIDE DIMENSIONS ONLY SLIGHTLY LARGER THAN HOUSEHOLD REFRIGERATOR

NOW IN PRODUCTION

Now that the *new* JORDON 14/6 made its bow at the New York Show, we all know the score. It's a hit—because it hits at the weak spot in modern refrigerator merchandising—where the large domestic refrigerator is still "too small," and the average reach-in is "too large." That's why the JORDON 14/6 clicked with dealers. It's a beautiful bridge between domestic and commercial business and opens up vast new markets to large homes, farms, eating places, hotels, institutions, hospitals, etc.

We are going strong on production—get set now to sell this NEW refrigerator designed for mass-merchandising thru department stores—household appliance distributors and commercial dealers. And we are backing our campaign with SOUND ADVERTISING. Write, wire, or phone for details.

- 14 cu. ft. of Standard Refrigeration.
- 6 cu. ft. Freezer-Locker.
- 16 lbs. of ice cubes.
- ONE Condensing Unit and ONE Simple Control.
- All welded-steel construction—Hi-Baked White exterior.
- Priced exceptionally LOW to stimulate VOLUME turnover.

Jordon
REFRIGERATOR CO.
Sales Division
235 N. BROAD ST., PHILADELPHIA 7, PENNA.
CABLE: "JORDONREF" LOcust 7-2913
PLANT: PHILA., PA.

AMERICA'S MODERN COMMERCIAL LINE

57,475 Boxes Made In Canada In 1946

WASHINGTON, D. C.—Production of domestic electric refrigerators in Canada during 1946 totaled 57,475 units, according to the Office of International Trade, Department of Commerce.

Imports of refrigerators amounted to 14,923 units, valued at $1,740,478, OIT said. Of these, 11,053 were electric refrigerators (domestic or store). Refrigerator parts imports were valued at $3,460,293.

Exports of refrigerators totaled 2,007 (720 electric), valued at $126,217 (including parts).

Domestic washing machine production for the year was reported as 119,369 units (100,566 electric; 11,626 gasoline-operated; 7,177 hand-operated).

Imports of washing machines added up to 14,734 units, valued at $1,121,968 (including parts). Of these, 12,794 were electric.

Exports were reported as 7,514 machines, valued at $443,472 (including parts).

Bendix Adds 6 Outlets; Belgium To Get Washers

SOUTH BEND, Ind. — Appointments of six more foreign distributors have been announced by Harlow K. Lyons, export manager for Bendix Home Appliances, Inc. They are:

Usines G. Staar, S. A., Brussels, Belgium; Claude Mouries, Algiers, whose territory includes French Morocco, Algeria and Tunisia; Elektro-Helios, S. A., Stockholm, Sweden; Edstrom Trading Co., Norway, Denmark, and Finland; Tagaropulos, Colon, Panama; Importadora Cial, S. A., Rio de Janeiro, Brazil.

Five hundred Bendix automatic washers will be shipped this year to Belgium, first of the once Nazi-occupied countries to receive them. Gustave Staar, president of the Belgian distributorship, was a major in the underground forces during the German occupation.

Mr. Lyons announced also the reappointment of Cia. Mercantil Internacional, of Mexico City, as the manufacturer's distributor in Mexico.

Army Presents Medal To Carrier Researcher

NEW YORK CITY — Robert E. Thompson, market research manager of International Division, Carrier Corp., has been awarded the U. S. Army's Legion of Merit medal at a ceremony in the International Division's headquarters here.

Mr. Thompson, a lieutenant colonel in the Signal Corps, was in charge of supply and procurement on General MacArthur's staff from Australia to Tokyo. Col. Thompson held a reserve commission when the Japanese attacked Pearl Harbor. He was in Java when it was overrun by the Japs, and escaped in an Army B-17 which was shot down, patched up by the passengers and crew, and finally landed safely in Australia. He received the Purple Heart for wounds suffered at that time.

Col. Thompson's Legion of Merit citation states he displayed exceptional professional skill and foresight in promptly planning and coordinating an extensive signal procurement and supply program, and in expediting vital radar equipment to front line troops.

WORLD TRADE NEWS

Jordon Exports Going To 18 Nations--Zatko

PHILADELPHIA—Jordon Refrigerator Co. reports that its export trade is "picking up," with shipments now being made regularly to at least 18 countries.

The countries include Bermuda, Brazil, Canada, Cuba, Dominican Republic, Egypt, Hawaii, India, Ireland, Mexico, Netherlands West Indies, Panama, Philippine Islands, Puerto Rico, South Africa, Uruguay, and Venezuela.

About half of these countries are in Latin America which, Export Manager Maurice Zatko pointed out, is "by far our greatest market."

"President Miguel Aleman's highly-successful visit to the United States should give fresh impetus to trade activity between our country and Mexico," Mr. Zatko said.

"While the situation looks bright at the moment, some usually well-established outlets may have difficulty in securing letters of credit. On the other hand, countries like Turkey, for instance, may suddenly come to life with the easing of import license restrictions.

"We have some pending orders from countries where there is currently a lack of reserve U. S. dollars. However, conditions are bound to improve in this regard and we believe that our equipment will soon be going to these hitherto unapproachable markets."

Jordon's literature sent abroad now includes one foreign-language brochure (in Spanish and Portuguese). However, the company is planning to issue a series of the brochures, some of which may be in two-tone colors. Also under consideration is a brochure in French.

A goodly assortment of Jordon equipment was displayed at the Royal Dublin Society Industries Fair May 6-10. Similar displays were recently made in Canada.

Cooler First Product Of New Canadian Co.

TORONTO, Canada — Formation of Multiple Refrigeration Products, Limited here to manufacture a line of commercial refrigeration cabinets for distribution through national accounts in Canada is announced by Fred G. Peck, a director and general manager.

"Our first product, an electric water cooler, will be manufactured in a plant of 20,000 sq. ft. area, equipped with modern machinery and utilizing the most up-to-date methods in processing the refrigeration components," reports Mr. Peck, former director of research for Victor Products Co., Hagerstown, Md.

The first coolers were to be available to the Canadian market in June.

G. H. Wood, president of G. H. Wood Co. of Canada, is president of M. R. P. Other officers are L. T. Ward, vice president; W. E. Vaughan, secretary-treasurer; and W. J. Evans, director. Mr. Ward has been active in the compressed gas field and was associated with the refrigeration industry in the United States for many years.

Address of the company is 587 Fleet St. West, Toronto, Ontario.

Becraft Succeeds Lee As Export Director for Trane

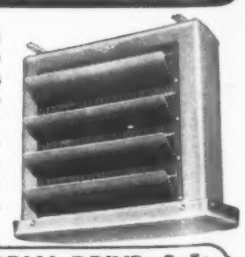
LA CROSSE, Wis.—The Trane Co. here announces the appointment of E. R. Becraft as export director to succeed R. E. Lee, who has been named manager of the unit heater sales division.

Mr. Becraft, who holds a degree in engineering from Montana State College, joined Trane in 1937 as a sales engineer. Before that, he spent five years in the construction industry.

Genuine
FACTORY COMPRESSOR EXCHANGE
ON
★ BRUNNER ★ CHIEFTAIN
★ COPELAND ★ LEHIGH
★ MILLS ★ UNIVERSAL COOLER
Complete stock of pumps on hand for exchange - at all times
CHASE REFRIGERATION SUPPLY COMPANY
546-48 West 119th St., Chicago 28, Illinois

PERFORMANCE WITHOUT COMPROMISE

From internal engineering to external finish, every factor in Larkin refrigeration products is flawless in execution. The same constructive ability which originated patented Cross Fin Coils also produces Humi-Temp Forced Convection Units — Bare Tube and Zinc Fused Steel Plate Coils — Air Conditioning Units—Instantaneous Water Coolers—Evaporative Condensers—and other high-grade items demanded in the commercial and industrial refrigeration field.



THE WATCH DOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS 519 MEMORIAL DRIVE • S•E• ATLANTA • GEORGIA

SINCE 1939•••ZEROSAFE
by WILSON



WILSON ZEROSAFE FARM FREEZER
Sectional Model FF-60

THE GREAT NAME IN FREEZER DESIGN

SINCE 1939 Wilson ZEROSAFE has been the greatest reach-in farm freezer in America... THE NEW WILSON ZEROSAFE IS NOW GREATER THAN EVER BEFORE . . . Not a toy, but big, ruggedly beautiful, efficient, with stamina for years of low-cost operation.

SIZES FOR EVERY NEED FROM 15 TO 120 CU. FT.

FOR FRANCHISE INFORMATION ADDRESS DEPT. II: WILSON REFRIGERATION, INC., SMYRNA, DELAWARE

W. A. Henry Will Represent Remco In 7 Midwest States

PITTSBURGH—Remco, Inc., manufacturer of refrigeration equipment here, has announced the appointment of Wallace A. Henry as representative for the company with his headquarters in Minneapolis.



W. A. Henry

Mr. Henry's territory includes Minnesota, Wisconsin, Upper Michigan, No. and So. Dakota, Montana, and eastern Nebraska. He is a graduate engineer from Iowa State college.

J. F. Pedder Takes Post with Cleveland Advertising Agency

DETROIT—James F. Pedder, at one time advertising manager for the Frigidaire division of General Motors Corp., has joined Meldrum & Fewsmith, Cleveland advertising agency, as vice president in charge of Detroit operations, the agency has announced.

Mr. Pedder, who was more recently GM's director of employe information, will handle the advertising of Ford tractors and farm implements for the Dearborn Motors Corp., distributor, it was said.

Bendix Appoints Klein Div. Sales Mgr. for Pittsburgh

PITTSBURGH—Charles E. Klein's appointment as divisional sales manager for the Pittsburgh area is announced by W. F. Linville, general sales manager, Bendix Home Appliances, Inc.

His background includes 10 years as a theater manager and film salesman in Pittsburgh and Baltimore, and territorial manager for the General Motors Acceptance Corp.

Norbert Downey Joins McQuay To Head Sales Of Industrial Unit Heating

MINNEAPOLIS—Norbert Downey, sales and public relations executive formerly with the Trane Co., has joined McQuay, Inc., here to head up industrial unit heating sales, the company announces.



Norbert Downey

A former advertising manager for Trane, Mr. Downey also headed that company's industrial heating division and publicity department for nine years. Noted for his unusual promotion schemes, he introduced a vertical unit heater one year through a series of "mass meetings" for engineers, contractors, and industrial engineers.

A notable publicity stunt credited to Mr. Downey was the Ferbee Golf Marathon some years ago featuring a Chicago broker who played 300 holes of golf in four days in Los Angeles, Phoenix, St. Louis, Chicago, Philadelphia, and New York City, concluding the tour at the New York World's Fair.

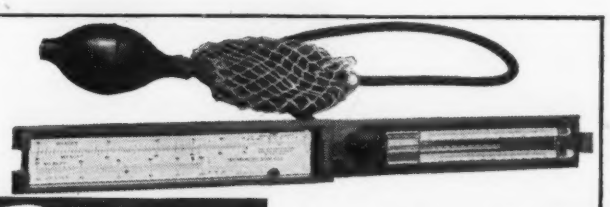
Kaiser Fleetwings Names A. D. Howard Assistant General Sales Manager

OAKLAND, Calif. — Alfred D. Howard, formerly assistant sales promotion manager of Servel, Inc., has been appointed assistant general sales manager of Kaiser Fleetwings Sales Corp. of Oakland, Calif., and Bristol, Pa.

S. D. Hackley, vice president and general manager, announced Mr. Howard was selected to assist General Sales Manager Paul L. Yager in the marketing of the new Kaiser dishwasher, distribution of which is now being pushed on a nationwide basis through an eight-region sales organization.

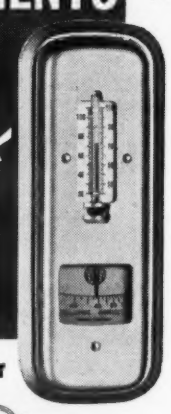
For the time being Mr. Howard will supervise the territory east of the Mississippi from Bristol while Mr. Yager works out of the general offices in the Kaiser building in Oakland.

Mr. Howard began his selling career with Kelvinator and joined Servel, Inc., electrical division, in 1932. He served successively as branch manager, district sales manager, and sales promotion representative until 1939 when he took the position of assistant sales promotion manager.



Sales AND Service INSTRUMENTS by Bendix Friez

PSYCHROMETER, Hand Aspirated. High accuracy is assured by continuous air flow over the wet bulb induced by hand aspiration. Takes readings in confined spaces. No special skills required. Complete assembly comes in sturdy pocket kit . . . ready to use.



RELATIVE HUMIDITY Indicator continuously shows relative humidity in direct percent on a calibrated scale. Employs famous Bendix-Friez human hair element. Temperatures indicated over a range of 20° to 110° Fahrenheit.

FRIEZ INSTRUMENT DIVISION OF Bendix AVIATION CORPORATION • • • • BALTIMORE 4, MD.

BENDIX FRIEZ

A MASTERPIECE in Thirst-quenching Convenience

OASIS ELECTRIC WATER COOLERS



You're always *Sure* with an OASIS-built by EBCO, pioneers in the electric water cooler field.

The EBCO Mfg. Co.
401 W. Town St.
Columbus 18, Ohio

MARSH



Pressure Gauges
Dial Thermometers
★The gauge with the Recalibrator

Ask for this New Refrigeration Booklet

JAS. P. MARSH CORP.
2061 Southport Ave., Chicago 14, Ill.

GENUINE MAYFLOWER
AIR CONDITIONERS



Air Conditioners Licensed Under U. S. Patents
No. 2,048,246
No. 2,055,528

MAYFLOWER PRODUCTS, INC
13 S. 5th St., Richmond, Ind

AIR CONDITIONING condensers and coolers designed and built FAST

We design, build, retube or rebuild quickly any unit with tubes, standard or special, for Freon, ammonia, CO2. Materials on hand for prompt delivery. Emergency maintenance work 24 hours a day, anywhere.

Condenser Service & Engineering Co., Inc.
88 River Street, Hoboken, N. J.
Phone HOboken 3-4425. After 6 P. M. or Sundays, HOboken 3-4428

THE INDUSTRY'S STANDARD SOURCE-OF-SUPPLY REFERENCE SINCE 1932

LESS THAN $1 PER DAY

All costs are sky-high today, and sales promotion costs are no exception. But here's a way you can *save money*, and contact the whole industry at the same time. Advertising in the REFRIGERATION & AIR CONDITIONING DIRECTORY is both low-cost and long life.

The Directory is the industry's guide for purchases—and has been, for more than a decade. It goes to 20,000 buyers, and it is used all through the year. A full page black-and-white advertisement costs only $225.00. That's less than $1.00 per business day for all the coming year.

If you can't send a sales message often, send one that's kept and used.

ADVERTISING CLOSING DATE SEPTEMBER 30, 1947.

PUBLICATION DATE JANUARY 10, 1948.

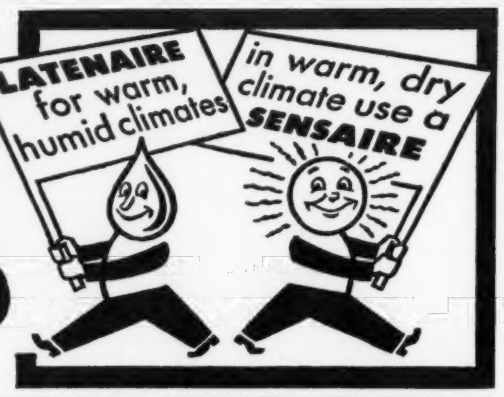


U. S. PRODUCTS EDITION

Refrigeration and Air Conditioning Directory

BUSINESS NEWS PUBLISHING CO., 450 W. FORT ST., DETROIT 26, MICH.

REMEMBER
Amcoil
AIR CONDITIONING • REFRIGERATION
AMERICAN COILS CO., NEWARK, N. J.





SEND FOR YOUR COPY OF TEMPCO'S NEW CATALOG!

- A first edition! 140 Pages of Quality Values! Parts—Supplies—Equipment for Refrigeration, Air Conditioning, Heating and Appliances.

NAME.....
ADDRESS.....
CITY ..... STATE .....

TEMPCO SUPPLY COMPANY
1111 W. Jackson Blvd. Chicago, Illinois

Field Report

What are dealers, distributors, servicemen, and the others on the industry's front lines thinking about today? These "Field Reports"—extremely popular in prewar days—now give NEWS readers the latest ideas of the men closest to the all-important consumer.

'Back Alley' Equipment Hurts Dealer & Frozen Food Industry, Says Coast Firm

SAN FRANCISCO — "The whole frozen food industry seems to be having growing pains," contends James A. Scatena, co-partner with his brother Charles in the Scatena York Co., distributor-dealer of commercial refrigeration equipment here.

"You'll see one frozen food cabinet of good construction listing at a reasonable price and carrying a long discount. Then you'll see other cabinets of very poor quality with a high price and a short discount," he said.

Freezers and cabinets made in "back-alley" shops for local sales have hurt the industry, he believes. They've also hurt the Scatena York operation, admits Mr. Scatena, who revealed that he has about $5,000 worth of frozen food cases which he can't conscientiously sell.

"We sold about 20 'home-made' cabinets when top-quality merchandise was impossible to get before we realized how poorly made these cabinets were," he said. "Then we immediately stopped selling them. And now we're waiting for good cabinets."

As president of the Refrigeration Contractors Association of Northern California, he is interested in not only the success of his own firm but that of other similar companies. Thus, he cautions others about selling poor merchandise.

"Many new distributors," he fears, "will sell a lot of these back-yard boxes and ruin their market. They must remember that this type of manufacturer won't be around very long, but the cabinets will."

Despite this factor, Mr. Scatena is still very hopeful for the ultimate success of the frozen food industry.

"There's still time to rectify these mistakes," he avers.

Mr. Scatena's views on the commercial refrigeration distribution set-up in general are also interesting.

"From about 1933 on we commercial distributors went out into the field to try to establish dealers, but we found that we couldn't do a dealer business," recalls Mr. Scatena. "This was because some manufacturers were selling directly to dealers.

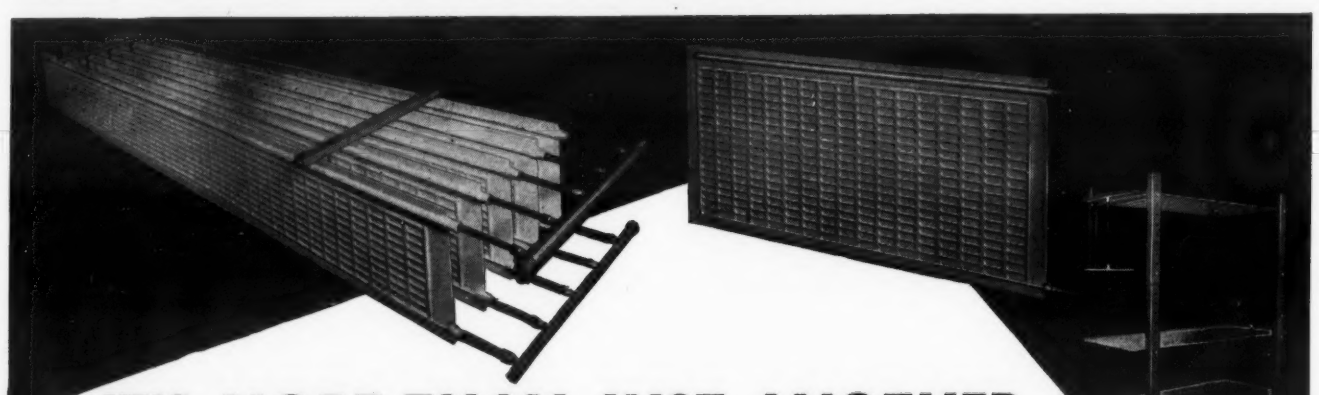
"The war changed things, though. Dealers have come flocking in for franchises, and we could make a killing now if we could deliver equipment. But we can't make deliveries, and when we are in a position to do so, these dealers will buy direct.

"I predict that when merchandise becomes available, the commercial refrigeration distributor-dealer program will collapse, except on exclusive, patented items.

"When this occurs, I feel that we'll lose these dealers and we'll probably have to set up our own retail branches," declared Mr. Scatena.



As president of the contractors group in Northern California, James A. Scatena (left) is vitally interested in the welfare of the industry, as is his brother and co-partner Charles J. Scatena (right). Another brother, Peter J., supervises service for Scatena York Co.



IT'S MORE THAN JUST ANOTHER REFRIGERATION PLATE

In thousands of freezer cabinets, frozen food locker plants, sharp freeze shelf stacks and similar equipment all over the country Hubbell-Yoder Refrigeration Plates are doing the job better than it has ever been done before, and at a lower cost. They have established a new and vastly higher standard of operating efficiency and economy for low temperature refrigeration. They have set up a new mark for all other freezing units to shoot at.

That briefly, is what the Hubbell-Yoder system of Complete Surface Freezing means when the chips are down. Would you like to know how it can be adapted to your requirements? Write, wire or phone.

HUBBELL YODER REFRIGERATION PLATES

ENGINEERING SERVICE, INC.
1311 WEST 80th STREET • • CLEVELAND , OHIO

Kitchens Are Tiny, So the Potential Is Large For Small Boxes & Multiples In San Francisco

SAN FRANCISCO—Small refrigerators and multiple remote installations have a good market here, according to R. Quigley Watt, who heads the refrigeration division of Holbrook Merrill Co. here.

Besides handling the Kelvinator household and commercial lines, the firm is dealer for Brunner and Copeland condensing units, Conlon washers and ironers, Florence and Crown ranges, Brunswick beverage coolers, Kooler-Keg beer dispensers, and other products.

Interest in the small refrigerators and multiple systems stems from the small kitchens found in most of the homes here, explains Mr. Watt.

"Three out of four kitchens are too small to take a self-contained box," he declares. "San Francisco is built straight up, which tends to limit the size of the kitchens. Also many people here prefer to eat out. So I doubt that many of these multiple installations will ever be replaced with self-contained units."

Starting back in 1930 the company, then known as Holbrook Merrill & Stetson, manufactured its own line of household and commercial equipment, besides distributing many nationally manufactured refrigeration products. Production was dropped in 1936. Altogether, the former company and the present one have supplied refrigeration to between 10,000 and 11,000 kitchens in San Francisco through multiple systems, he says.

A fair amount of interest in home freezers is noted by Mr. Watt, but he says the market has dropped considerably in the past six months.

"Some of our prospects for freezers say that food prices are too high for quantity food purchases," he explained. "They're afraid to make heavy purchases of food now because they think prices may drop in the near future. Other prospects say they don't have the money now to buy a freezer.

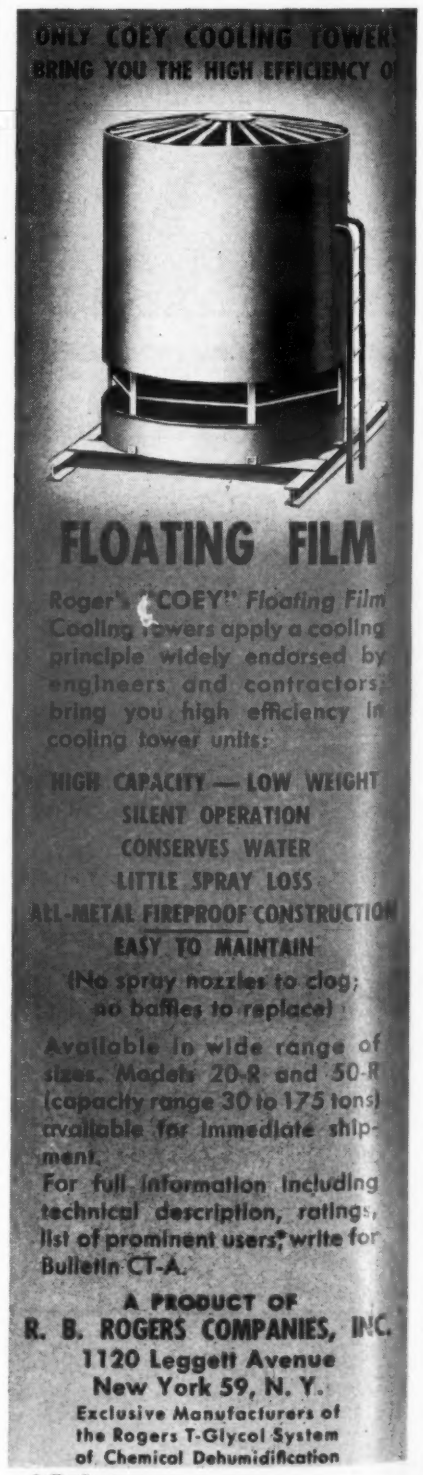
"Still others report that they are no longer interested in freezers because they aren't afraid of food scarcities as they were until recent months," adds Mr. Watt.

In the commercial field, buyers appear quite interested in open, self-service, refrigerated cases, but their resistance to present prices is high, he declared.

Generally, the seller's market on commercial equipment has disappeared in San Francisco, he reports.

"We have to get out and dig up sales now on commercial refrigeration. Buyers don't come into the store any more."

Besides the refrigeration division, which includes an extensive service department concentrating on commercial repairs, Holbrook Merrill also operates a sheet metal division headed by Charles H. Merrill, Jr.



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Field Report

New Showroom Puts Stock Right Out In the Open



John Homan (right) of Allied Supply Co., Dayton, is congratulated by Ben Scholl of Lynch Mfg. Co. on the firm's enlarged and remodeled quarters. Much of this wholesale firm's smaller parts and supplies are now in open shelving around the display floor, while larger equipment is placed on display islands. How this has affected the operation of the business is described in the accompanying story.

* * *

Supply Wholesaler Gets Some Surprises In Checking Showroom Changes, Outside Selling

By Phil B. Redeker

DAYTON — When John Homan, head of Allied Supply Co., wholesaler of refrigeration and washing machine parts and supplies, enlarged and rearranged his quarters here recently, and changed his method of displaying merchandise, he got some results that he expected—and some that he didn't.

Allied Supply's showroom now looks like it had been designed for a "self-serve" type of operation, but actually it isn't. While most of the smaller parts are displayed in small boxes or cartons placed on tall shelving along the side walls, there is usually a counterman at hand if a customer selects what he wants at the shelves.

If the customer prefers to do his ordering at the order counter at the back of the display room, then the counterman of course goes over to get the merchandise by himself.

What Homan has done, in effect, is to take most of his merchandise out of a hidden back-of-the-store stockroom and put it out in the display room, where the customers can see the stock and select from it, if he wants to. All items are very carefully labeled.

Larger pieces of equipment are placed on display islands throughout the showroom. However, they are so placed that there is no impression of the space being "crowded." Belts are hung on long pegs near the ceiling and are brought down with a bamboo pole-and-hook device.

"One of the reasons we put the stock out in the display room was to make it easier to fill orders, and to make it unnecessary to hire some additional help, which it looked like we might have to do.

"But where we got a surprise was that putting the supply out where the customers could see it boosted sales so much that we've had to hire the additional help anyway!"

One thing that's become obvious to Homan is the value of putting high-price, high-profit items in the "premium" display space, such as that near or on the order counter. Merchandise in such spots does move faster, and therefore it should be the items which show the best profit.

Like everyone else who is in the merchandising field today, Homan is feeling the need for more sales effort to move goods. He has found that he's been missing some bets in his own "backyard," so to speak, and feels that other parts and supplies wholesalers may be doing the same thing.

"We've got four men outside all of the time, but they were spending most of their time out in the territory (outside the Dayton metropolitan area). Recently I did some quiet checking and found out that we were losing local business to competitors just because we weren't seeing them."

Commenting on some of the general industry trends, Homan said that there had been no noticeable tendency to go to "contract service" in Dayton.

"Many servicemen seem to feel that a yearly contract for inspection only is okay, but when it comes to putting all service work on a contract, then they get only the kind of systems that they can't make out on."

One trend that Homan does see, at least in the big cities in the area he serves (Dayton and Cincinnati) is the tendency of the larger dealer-contractors to get away from maintaining large installation and service organizations of their own.

"A couple of the biggest contractors are now sub-contracting their service and some of their installations to the small one-and-two man outfits—sometimes working with as many as six or eight of them," he observes.

"I think possibly one of the reasons for this is that it gets them out of being involved in all of the labor and record-keeping problems that come when you get a larger organization."

New Service Contractor In Rapid City, S. D.

RAPID CITY, S. D. — Interstate Refrigeration Service Co. has recently been opened here by Paul Brzica.

The firm will distribute United commercial refrigerators and will service and repair refrigeration and air conditioning equipment.

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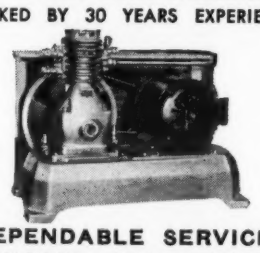
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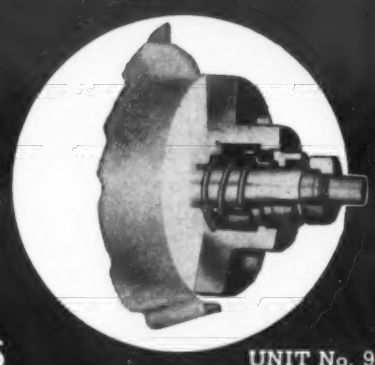
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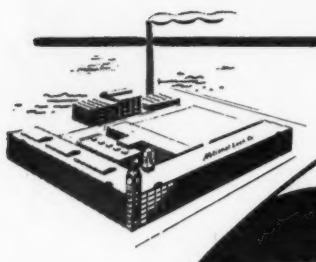
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Manufacturers Continue Increasing Inventories

WASHINGTON, D. C.—Continuing a trend that began last year, manufacturers' inventories rose further in April. This time the upsurge was confined mostly to durables, according to the Department of Commerce.

Rise in the value of stocks for April was $450 million, bringing the grand total to some $22 billion, the Commerce Department reported. Of this increase durable inventories accounted for $350 million. Shipments of all goods, however, dropped off slightly during April. They totaled $13.8 billion, approximately $200 million less than in March.

Four Leading Firms Boost Prices on Copper Products

DETROIT—Price boosts by four leading manufacturers of copper products in recent weeks only reflects the unstable price condition currently characteristic of the field, the industry believes.

These increases, made by three brass and one wire mill, resulted, the companies said, from higher costs of production. Average price being paid by these firms for copper metal was reported at 23 cents per lb.

The companies which have raised their prices for copper products recently are: Anaconda Wire & Cable, American Brass Co., Revere Copper & Brass, Inc., and Scoville Mfg. Co.

Other firms in the field, however, are continuing to base prices on the U. S. copper price of 21½ cents.

High Flying Wholesaler



When F. H. Langsenkamp, Jr., who operates refrigeration parts and equipment wholesaling firms in Indianapolis, South Bend, Evansville, Ind., and Louisville, Ky., wants to visit one of these branches, he merely hops into his Ercoupe plane and goes. With his plane, he finds that he can visit any of the branch stores and be back in Indianapolis all in the same afternoon. Such a trip by auto formerly took all day and he was worn out at the end of it, he says. The plane also comes in handy in picking up much needed merchandise in a hurry, he adds.

Carrier Gets $3,500,000 Matson Contract To Refrigerate Holds of 8 Fast Cargo Ships

SYRACUSE, N. Y.—One of the largest peacetime contracts for marine refrigeration ever placed has been signed by Carrier Corp. and the Matson Navigation Co. of San Francisco, President Cloud Wampler of Carrier reports.

Involving the expenditure of more than $3,500,000 by the Matson Co., the contract calls for refrigeration of the holds of eight fast cargo ships of the C-3 type. Each ship has 20 cargo compartments with a total volume of 78,000 cu. ft. The Carrier refrigeration system is designed automatically to maintain brine system temperatures ranging from -25° F. to 22° F.

Each ship will require five "Freon-12" reciprocating compressors of 60 hp. each, handling five individual shell and tube type brine coolers using calcium chloride. Each installation will have five brine pumps of 10 hp. circulating 150 gallons per minute.

The piping is arranged to circulate automatically the required quantity of either high temperature or low temperature brine and automatically maintain cargo temperatures at any desired point between -10° F. and 50° F.

One standard Carrier marine type cold diffuser will be installed in each cargo compartment to recirculate the room air at the rate of approximately one air change per minute, thus providing the required reserve capacity for quickly reducing the temperature of warm cargo to the optimum holding condition for the duration of the voyage.

A central electrical control incorporates in a single unit all electric motor controllers for compressors, pumps, and cold diffuser fans.

A unique feature in marine installations is the use of brine at a temperature of 22° from the cooler of one refrigeration system for condensing the "Freon-12" refrigerant circulated to the cooler handling brine at a temperature of -25° F.

Electric motors having a total of 420 hp. are required to operate the refrigeration system of each ship.

The Carrier installations will be completed in the first ships by late summer, and all eight will be completed by early 1948, according to Carrier's Marine Department, which designed the refrigeration systems.

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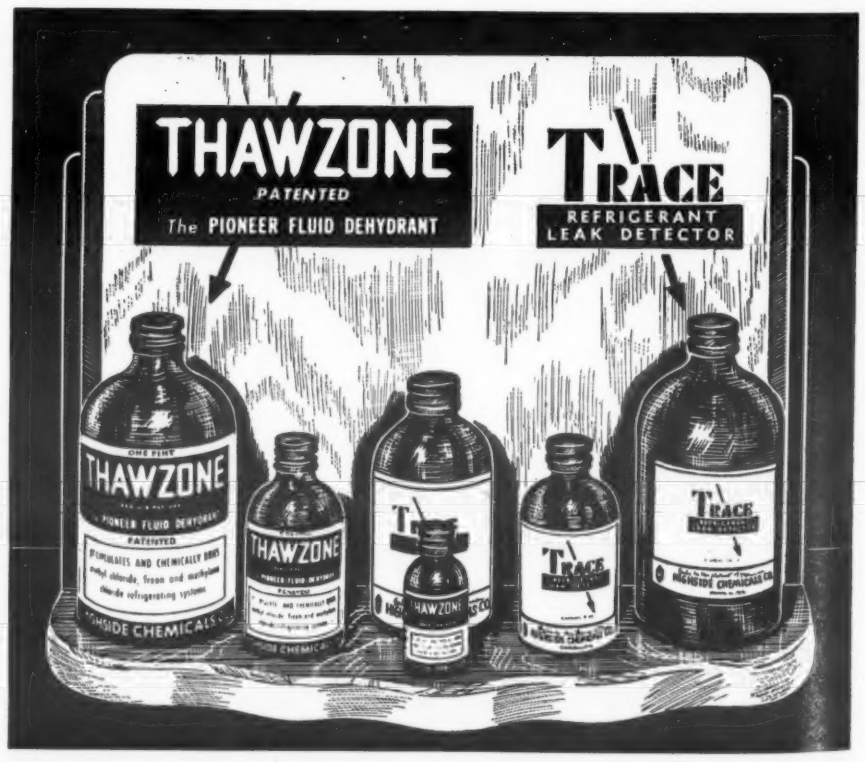
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The Market For Air Conditioning In Commercial and Industrial Buildings

By J. F. Brinley, Account Executive, Michel-Cather, Inc., New York

This market study on air conditioning was intended to reflect the air conditioning market for the first year after Victory (V-1). For all practical purposes, the term V-1 when used in the study may be considered as referring to the year 1947, for the reason that because of delays in reconversion, the number of air conditioning installations during 1945-1946 has not been sufficient to affect the original market projections to any great extent.

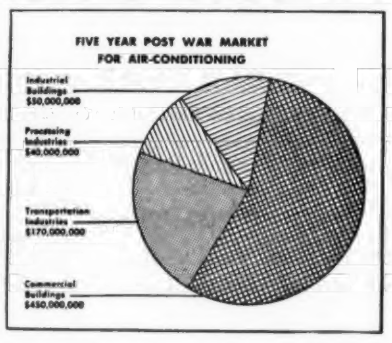
The money values herein given represent an average for the years 1939-1941. Forecasts in the survey are based on the same values without consideration of inflationary costs.

Summary

Forecasts concerning the air conditioning of commercial and industrial buildings are brought together and placed on a common basis in the following series of nine studies and the summary table. Each study is based on surveys made in an individual field.

Taken together, the nine studies show that expenditures for the air conditioning (of the types hereinafter specified) of commercial and industrial buildings may be expected to total approximately $100,000,000 in 1947 . . . and *to continue at that level* for an indefinite period dependent more upon economic factors than anything else.

The term "commercial and industrial buildings" includes a wide variety of non-residential structures, some of which are neither commercial nor industrial in a strict sense.



Among them are such buildings as churches, schools, hospitals, etc. The term includes also some commercial buildings which are residential in character, such as hotels and large apartment buildings.

Private residential structures are not included. This grouping was selected for the purpose of eliminating, so far as possible, the self-contained or "package" units of air conditioning. The market study is confined to those installations employing a "central" cooling plant with ducts running to the air conditioned areas.

In order of importance—as measured by annual dollar-volume of air conditioning planned for 1947—the individual fields studied were found to rank as follows:

1. Theaters
2. Department Stores
3. Industrial Buildings
4. Restaurants
5. Hotels
6. Schools
7. Hospitals
8. Banks

Our ninth study, which covered "other commercial" buildings, showed a larger total than any of the eight individual fields listed on the preceding page. However, it is our feeling that the over-all figure in this general classification has somewhat less significance as a sales potential because it represents a tremendous number of miscellaneous projects extremely diverse in character.

A large potential market undoubtedly exists among these "other commercial" buildings, but it cannot be broken down, classified and sold in the same manner as the other eight fields.

The summary table brings out a number of other pertinent facts besides the total amount of money to be spent for air conditioning in each field. It shows the total number of units in the field, the number which now have air conditioning installations (either partial or complete) and their percentage of the total. These percentages range from a low of 4% for banks to a high of 26% for department stores.

It is our opinion, based on statements made by individual establishments in the various fields, that *those fields which have already been active in air conditioning their buildings hold more promise for the future than those which have done comparatively little air conditioning.*

An exception must be made in the case of hospitals, which have done little in the past, but which are planning to embark on an extremely extensive modernization campaign.

Another interesting fact brought out in the summary table is the *average* horsepower per installation in each field. This gives a general idea of the size and kind of installation which is typical in that field.

While it is impossible to draw a hard and fast line and say that *all installations below a certain horsepower* are "package" units, and *all above that level* are "duct" installations, our studies indicated that an approximate division of this kind can be made at the level of 5 hp.

The lowest *average* horsepower per installation that we found for any field was 13½ among the "other commercial" buildings. This suggests that not many of the installations reported in that classification are of the so-called "package" units. The same appears to be true in the hospital and restaurant fields with installations averaging 14½ hp.

Elsewhere throughout our survey it would appear that virtually all of the installations are of the type using a central cooling plant with ducts running to the air conditioned areas.

Hotels

Market Scope

At present there are a total of 27,897 hotels in the United States. About two-thirds of this number are commercial hotels, and one-third consists of resort hotels and apartment hotels.

From the standpoint of air conditioning, the important part of this market is the group of 8,713 hotels having 50 or more rooms apiece. Of this group, 763 are "large" hotels of 300 rooms or over, 2,989 are "medium" hotels of 100 to 299 rooms, and 4,961 are "small" hotels of 50 to 99 rooms.

An official of the American Hotel Association has expressed the belief that relatively few new hotels will be built after the war.

"The hotel industry was substantially overbuilt after the last war," he says, "and as a result many hotels were forced into bankruptcy. Accordingly, the trend in the industry today is to rehabilitate existing properties by means of extensive refitting, repairs, and maintenance work."

Modernization Program

A recent survey under the auspices of the American Hotel Association, in which 3,036 hotels were approached, shows estimated expenditures of about $300,000,000 for modernization as soon as men and materials are available after the war.

Taking 9,000 in round numbers as the total of hotels in the United States of a character similar to those interviewed, it is fair to assume that the total post-war market for hotel modernization will be about $900,000,000.

Breaking down the data by the size of hotels, the survey indicates that the large hotels plan to spend for all improvements an average of $312,429 apiece . . . the hotels of medium size $112,500 apiece . . . and the small hotels $36,878 apiece.

The statistical summary of V-day projects prepared by the F. W. Dodge Corp. showed 301 hotel projects totaling $89,356,000 already in the preliminary stage (ready for contracting) in 37 Eastern states.

Status of Air Conditioning

Prior to the entry of the United States into the war a total of 1,214 hotels is shown by the Edison Electric Institute to have installed air conditioning equipment aggregating 50,814 hp. These installations were made as follows:

Period	No. of Hotels	Horsepower
Up to 1940	878	43,593
During 1940	190	3,806
During 1941	146	3,415
Totals	**1,214**	**50,814**

This works out to a little more than 40 installed horsepower per hotel, which would scarcely do more than air condition the public rooms. For the same period the figures of the Edison Electric Institute show restaurants to have installed air conditioning equipment averaging 15 hp. per installation.

On this basis this average hotel installation would be equivalent to about three rooms each the size of a typical restaurant. Assuming the hotel installation to cover the main dining room, a convention hall or banquet room and perhaps a coffee shop, the existing equipment has no capacity left over for air conditioning the sleeping rooms.

No definite figure can be taken as typical of the horsepower needed per room for air conditioning of guest rooms in hotels because so much depends on the local climate. It is interesting to note, however, that the completely air conditioned, 819-room Hotel Statler in Washington, D. C., has equipment of 1,200 hp.

If it be assumed that one-third of the Washington Statler's total capacity is required for air conditioning the public rooms (which are larger and more numerous than those of the average hotel), the guest room demand works out to about 1 hp. per room.

A rough check of this figure is furnished by the fact that the average size of residential installations—in the comparatively few instances where air conditioning has been applied to homes—is 1.1 hp.

From these figures it is evident that the average 40 hp. installation in the 1,214 hotels which employ air conditioning would not cover many guest rooms regardless of the amount utilized for the public rooms. As a matter of fact, fewer than 30 hotels are known to have any air conditioned guest rooms.

Comparatively little has been done with hotel air conditioning since the start of the war. Post-war expenditures for heating, air conditioning, and refrigeration equipment, according to the American Hotel Association survey, may be expected to total about $100,000,000. It is the third

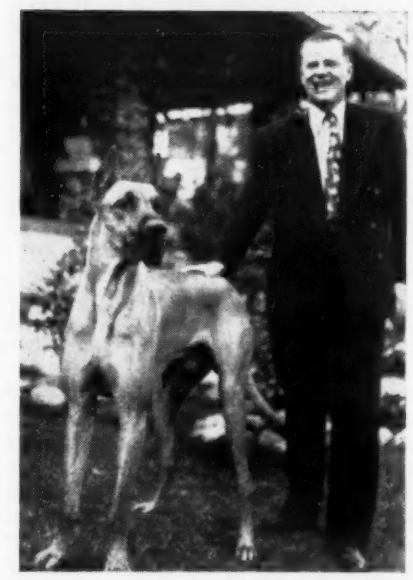
(Continued on next page)

Study Is Part of a Practical Market Survey

Editor's Note: This study on the market for central station type air conditioning equipment was made by J. F. Brinley and is published (with some minor deletions) with Mr. Brinley's permission.

Mr. Brinley is an advertising executive with considerable experience in sales management, sales promotion, and market studies. This market report was made in the course of his advertising and public relations work for a manufacturer of air conditioning equipment.

The report defines the market, and analyzes it by types of prospective users. It is indicative of the research and analysis that must precede a substantial sales promotion program.



J. F. Brinley and his year-old Great Dane pup "Eric."



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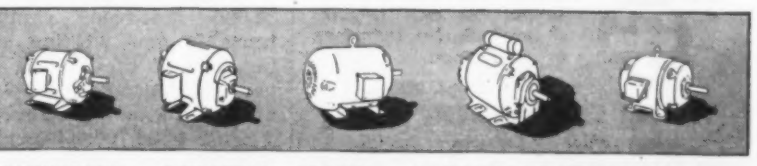
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Study Covers Scope of Market

(Continued from preceding page)

largest of the major divisions of that survey.

The big hotels will spend on the average of $39,916 apiece, the hotels of medium size $13,370 apiece, and the small hotels $2,825 apiece.

While the survey does not show the amounts separately for the three items under this general heading, it is estimated that approximately 40% of the total will be for air conditioning—in other words, about $40,000. This total will probably be spread over 5 years at a rate of $8,000,000 a year.

It is estimated that there is a total of 1,500,000 hotel rooms in the United States. Air conditioning equipment installed by the hotels in 1941 cost about $1,000 per horsepower. Translated into terms of rooms that means about $1,000 per room since each room requires about 1 hp.

In other words, the anticipated expenditure of $8,000,000 a year to be spent for air conditioning would suffice for about 8,000 rooms a year. This is a very modest proportion of the total number of rooms, and indicates that the estimate of anticipated air conditioning expenditure is extremely conservative.

Restaurants

Market Scope

At present there is a total of approximately 180,000 restaurants in the United States. The important part of the market, however, consists of the restaurants which do a gross business of $20,000 a year or more. This figure corresponds roughly with servings of 300 meals a day, or a seating capacity of 100 persons.

In the group doing $20,000 or more business annually are 40,000 commercial restaurants and 5,000 industrial restaurants. According to the accepted definition in the trade, a commercial restaurant is a business conducted primarily for the sale of meals. It does not include dining rooms in hotels, clubs, etc.

This study is confined to commercial restaurants, and whatever air conditioning of industrial restaurants may be in prospect is included in the section covering industrial and factory buildings, just as the air conditioning of hotel restaurants is included under hotels.

In 1944 the restaurant industry is reported to have done a total sales volume of $4,253,000,000. Of the total business, 76% was done by 26,500 restaurants having financial ratings. This group is undoubtedly the backbone of the restaurant industry, but for the purposes of this study, it was deemed best to include the modernization programs of the entire 40,000 commercial restaurants doing more than $20,000 a year business.

Modernization Program

A nationwide survey made last year by the United States Chamber of Commerce indicates that the restaurant industry is ready to spend $1,242,849,000 on modernization as soon as conditions permit. This total is divided as follows:

Improvements to buildings	$ 313,252,000
Redecoration and refurnishings	462,892,500
Heating, plumbing, *air conditioning*, and other heavy equipment	324,342,000
Equipment for laundries, kitchens, etc.	142,362,500
Total	$1,242,849,000

Status of Air Conditioning

Prior to the entry of this country into the war, some 6,583 restaurants are reported by the Edison Electric Institute to have installed air conditioning equipment aggregating 96,324 hp. These installations were made as follows:

Period	No. of Restaurants	Horsepower
Up to 1940	4,375	71,758
During 1940	1,102	13,469
During 1941	1,106	11,097
Totals	**6,583**	**96,324**

This works out to approximately 14½ installed horsepower per restaurant and compares with an average of 40 hp. for hotel installations, 80 hp. for theaters and 100 hp. for department stores.

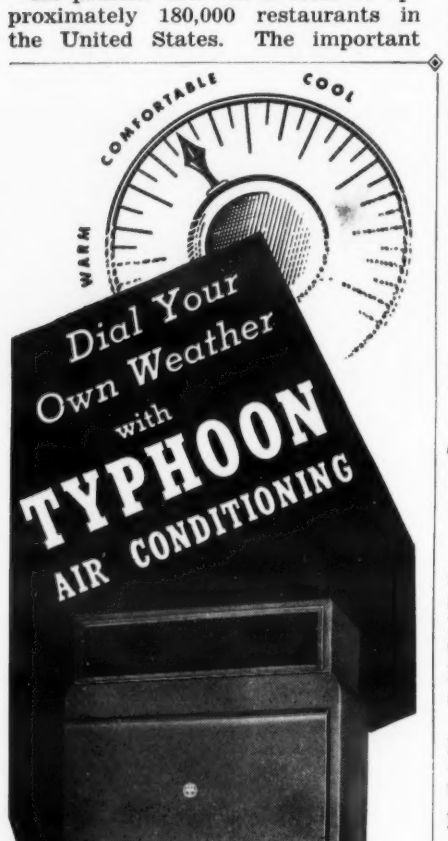
Future Plans

During the last prewar year the industry spent about $4,000,000 for air conditioning. Since this included approximately 1,000 projects, the cost per installation was in the neighborhood of $4,000. One source estimates installations totaling at least $8,000,000 per year after the war.

Assuming that the $324,342,000 expenditure—for restaurant heating, plumbing, air conditioning, and other heavy equipment predicted by the U. S. Chamber of Commerce survey—is made over a 10-year period, and assuming that 25% goes for air conditioning, a yearly outlay of $8,150,000 is indicated.

The National Restaurant Association conducted a small survey among its members which showed that 100 out of 1,000 had definitely decided to install air conditioning after the war. Since the answers were given in terms of definite decisions we may assume that the work will be done in a period of two years.

If this 10% figure is applied to the 33,500 first-class commercial restaurants now without air conditioning, and if the cost is about $4,000 per installation, which was the average of the last prewar year, we get a total of $6,700,000 per year for the first two years after the war.



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Summary of the Market by Type of Establishment

Type of Business or Building	No. of Units (Establishments)	No. Units Air Conditioned*	Per Cent Air Conditioned (Through 1941)	Total Installed Hp. (Through 1941)	Hp. per Installation (Through 1941)	Estimated Hp. to be Installed V-1†	Estimated Air Conditioning Expenditure V-1 Based on Hp.‡	Estimated Air Conditioning Expenditure V-1 Based on Survey Within the Industry	Michel-Cather Estimate of V-1 Air Conditioning Expenditure
Hotels	8,713	1,214	14	50,814	41	7,221	$ 7,220,000	$ 8,000,000	$ 8,000,000
Restaurants	40,000	6,583	16	96,324	14½	24,560	8,600,000	8,000,000	8,000,000
Theaters	17,919	2,238	12½	176,320	79	18,831	6,600,000	12,000,000	12,000,000
Banks	18,902	743	4	24,017	32½	5,351	1,900,000	2,800,000	2,800,000
Hospitals	6,665	527	8	7,536	14½	1,430	500,000	7,600,000	5,000,000
Schools	6,356	**	**	**	**	22,050§	7,720,000	10,800,000	7,720,000
Department Stores	4,074	1,046	26	105,764	101	23,066	8,100,000	13,600,000	11,000,000
Other Commercial	**	35,299	**	479,006	13½	133,049	46,500,000	26,500,000‖	36,500,000
Total Commercial Bldgs.	**	47,650	**	939,781	20	235,558	$ 87,140,000	$89,300,000	$ 91,020,000
Total Industrial Bldgs.	27,000	4,759	17½	137,329	29	42,423	14,800,000	8,000,000	10,000,000
Total Commercial and Industrial Bldgs.	**	52,409	**	1,077,110	20½	277,981	$101,940,000	$97,300,000	$101,020,000

**Not available. *Units having air conditioning installations, whether partial or complete. †Estimate for V-1 is 1940 plus 1941. ‡Based on best experience available cost is assumed at $350 per hp. except in case of hotels which is $1,000 per hp. §Based on 2,100 projects of which 30% will have air conditioning installations averaging 35 hp. apiece. ‖Based on 5,100 projects to cost $875,000,000 of which an estimated 3% would be spent for air conditioning.

Theaters

Market Scope

At present there are 17,919 theaters in operation in the United States. Broken down as to capacities they are as follows:

Seating Capacity	No. of Theaters
Over 3,000	117
2,000 to 3,000	374
1,500 to 2,000	689
1,000 to 1,500	1,646
500 to 1,000	5,500
200 to 500	7,303
Less than 200	2,290
Total	**17,919**

For the entire group the average seating capacity is 621, the average daily attendance is 800, and the gross annual income is $1,363,250,000.

Modernization Program

One source classified the anticipated expenditures for the modernization to be made in the first two post-war years as follows:

New building construction	$180,000,000
Modernization of existing buildings	60,000,000
New projection and sound equipment	40,000,000
Seating improvements	20,000,000
Total	**$300,000,000**

An additional amount, not yet definitely estimated because of lack of cost estimates, will be spent for air conditioning.

Status of Air Conditioning

Prior to the entry of this country into the war a total of 2,238 theaters is shown by the Edison Electric Institute to have installed air conditioning equipment aggregating 176,320 hp. These installations were made as follows:

Period	No. of Theaters	Horsepower
Up to 1940	1,826	157,489
During 1940	236	11,573
During 1941	176	7,258
Totals	**2,238**	**176,320**

This works out to an average of about 80 hp. per theater.

From the figures already presented it will be seen that there are about 15,600 theaters in the United States now without air conditioning. Some sources incline to the belief that package units will suffice for air conditioning theaters with fewer than 500 seats.

Only about 400, oor 4¼% of the 9,593 theaters of this 500 seating size have so far installed air conditioning, while about 1,800—or 22%—of the 8,326 theaters with more than 500 seats have installed it.

If the smaller theaters be disregarded so far as new equipment is concerned, it may be estimated that there is a potential air conditioning market of about 6,530 theaters now without it.

In addition, it is believed that about 65% of the present 2,200 installations in theaters are obsolete or inefficient, and should be replaced. This adds another 1,430 potential projects, making a total of about 7,960.

Assuming, to be conservative, that only one half of these 7,960 air conditioning projects, or 3,980, are actually carried out over a period of 10 years, we have a total of about 400 projects a year. Since the average cost of theater air conditioning in the past is estimated to have been about $30,000 per project, we can anticipate annual expenditures here of about $12,000,000 after the war.

This estimate is considerably larger than that based on actual installations in 1940 and 1941, but appears to us to be well supported by the evidence.

Banks

Market Scope

There are at present 18,902 banking premises in the United States. They represent approximately 14,000 separate banking institutes and something over 4,000 branches.

No general survey has been conducted to determine the amount of money to be spent after the war for modernization of bank premises. The F. W. Dodge statistical summary of V-day projects reports 251 bank projects involving $18,163,000 in the preliminary stage (ready for contracting) in 37 Eastern states.

Status of Air Conditioning

According to the figures of the Edison Electric Institute there are 743 bank premises with air conditioning installations totaling 24,017 hp. These installations were made as follows:

Period	No. of Banks	Horsepower
Up to 1940	500	18,666
During 1940	111	2,872
During 1941	132	2,479
Totals	**743**	**24,017**

This works out to an average of about 32½ hp. per installation which is about twice as much as the horsepower of the average restaurant and half as much as that of the average theater. The number of present installations represents only 4% of the total number of bank premises.

Future Prospects

In the absence of any definite survey figures we have no basis for an estimate of future air conditioning of banks other than a statement by the editors of *Banking* that it will probably proceed at about the same rate as in the past. This would mean approximately 120 installations aggregating 3,900 hp. per year.

For the first three years after the war this figure might reasonably be

(Continued on next page)

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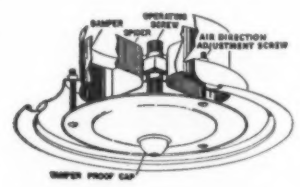
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Market In Hospitals, Schools, Big Stores

(Continued from preceding page)

doubled to take care of deferred installations since 1941. In that event we would have 240 installations aggregating 7,800 hp. each year for three years.

If the cost be estimated at $350 per horsepower, which is about the average, the annual expenditure for bank air conditioning would be approximately $2,800,000.

Hospitals

Market Scope

There were 6,655 hospitals in the 1943 registry of the American Medical Association. In addition there were several hundred hospitals not included in the registry because of failure to meet A.M.A. requirements. These were mostly small institutions, averaging about 20 beds each, and have not been included in the figures presented in this survey.

The number of hospitals decreased slightly in the decade 1933-1942, though the number of patient-days —the index of hospital service—increased 39%. This is indicative of a trend toward somewhat fewer, and considerably larger, hospitals.

Modernization Program

Many changes have been made in hospital procedure as a result of the war and many new and improved medical and surgical techniques have been developed. For this reason obsolescence is rapidly overtaking the older hospitals. A large number of new hospitals will be needed. Already an enormous hospital modernization and construction program has been mapped out for the post-war era.

Estimates vary concerning the amount of money that will be spent, one giving $450,000,000 a year as a conservative figure for the voluntary hospitals, and $50,000,000 a year additional for the Veterans Administration.

The F. W. Dodge statistical summary of V-day projects already in the preliminary stage (ready for contracting) reports 1,406 hospital projects totaling $706,722,000.

Status of Air Conditioning

According to the figures of the Edison Electric Institute a total of 527 hospitals in the United States have made air conditioning installations aggregating 7,536 hp. These installations were made as follows:

Period	No. of Hospitals	Horsepower
Up to 1940	359	6,106
During 1940	95	939
During 1941	73	491
Totals	**527**	**7,536**

From this it will be seen that about 8% of the 6,655 hospitals in the country have installed air conditioning equipment of some sort, but the average size of the installation is remarkably small, being only about 14 hp. This is no doubt due to former installations being largely confined to operating and delivery rooms, and nurseries. This situation invites intensive effort to expand air conditioning more generally throughout those hospitals which use it at all.

Future Plans

One analysis indicates a probable annual new building volume of about $330,000,000 a year in the post-war decade. This does not include strictly hospital equipment. Of this $330,000,000, 40%, or $132,000,000 a year, would be for materials and equipment, not including strictly hospital equipment.

A further breakdown shows 11½% of this material and equipment expenditure allocated to heating and ventilation—$15,180,000. Assuming that half of the heating and ventilating estimates—or only 5¾% of the entire materials and equipment estimate—would go into air conditioning, an annual expenditure of $7,600,000 is forecast for this purpose.

In view of the lack of air conditioning activity in the hospital field in the past, we feel that this forecast is somewhat high and prefer a figure of $5,000,000 a year as our estimate.

Schools

Market Scope

There are at present 117,000 separate school administrative units in the United States. Of these only 6,356 have enrollment of 500 or more pupils each. This relatively small group of large units, however, is said to have 75% of the total public school enrollment. It accounts for more than 85% of the expenditures made for school purposes.

In addition to the schools there are some 1,300 colleges, universities, and professional schools in the country. No statistics are available concerning the number of buildings used by these groups of institutions, nor the number of classrooms. It is estimated that the total capital outlay for all school and college improvements was $382,000,000 in 1940.

Modernization Program

A survey completed in 1937 by the government indicated that from 30 to 40% of city school buildings were then "more than 30 years old" and were inadequate for modern curriculum and community service. Similar inadequacy of facilities is said to exist in rural and smaller urban districts.

The National Resources Planning Board presented in its findings, published in 1943, a detailed consideration of needed school improvement projects. It estimated the minimum justifiable educational expenditures of a capital nature at $1,285,000,000 a year for the post-war decade. This total was divided among different types of educational institutions as follows:

Preschool, elementary, and high school	$1,000,000,000
Junior College	125,000,000
College, university, professional school, etc.	120,000,000
Public Library	40,000,000
Total	**$1,285,000,000**

This figure is substantially higher than that of the F. W. Dodge statistical summary of V-day projects. The latter shows a total expenditure of $1,122,617,000 for 5,175 schools and college projects to be spread over a 2½ year period at a rate of $447,000,000 a year.

Status of Air Conditioning

Though exact figures are lacking, it appears from general indications that little has as yet been done in the way of scientific air conditioning in schools. This is probably due to the fact that schools are normally closed during the hottest months of the year and do not feel the need for air cooling. A survey conducted among the superintendents of the 6,356 school administrative units having more than 500 enrollment, and among 500 school architects. This showed the superintendents to be evenly divided on the desirability of school air conditioning in summer and the architects to be against it in a ratio of 70 to 30.

Future Plans

If the architects' advice is followed, only 30%, or about $360,000,000 a year, of the proposed capital outlay for school improvement will go into buildings with air conditioning. Assuming that 3% of the total cost of these new buildings goes for air conditioning, an annual outlay of $10,800,000 may be anticipated for this purpose.

In this instance we believe it would be more accurate to take the Dodge figure of approximately 2,100 new school and college projects per year, of which 30%, or 630, will have air conditioning installations of 35 hp. apiece. This gives an annual air conditioning expenditure of approximately $7,720,000.

Department Stores

Market Scope

A department store is defined in the United States Census of Retail Distribution as a departmentalized retail store doing more than $100,000 business per year. In 1939, the census states that there were 4,074 such stores in the United States. Of this total about 1,000 stores are recognized within the industry as being "big" stores—that is, doing business on a number of different floors.

Modernization Plans

A survey of its members conducted by the National Retail Dry Goods Association indicated that modernization expenditure of all sorts will total approximately $1,000,000,000 during the first 5 years after the war. The membership of the association is said to include most, but not all, of the department stores in the country.

On the other hand, it includes some specialty shops that are not department stores. The non-member department stores and the non-department-store members about offset each other, so the association's figures may be considered to be representative of the department store business as a whole.

Status of Air Conditioning

According to the figures of the Edison Electric Institute there are at present 1,046 installations of air conditioning equipment aggregating 105,764 hp. in department stores. These installations were made as follows:

Period	No. of Stores	Horsepower
Up to 1940	735	82,698
During 1940	180	13,021
During 1941	131	10,045
Totals	**1,046**	**105,764**

This works out to an average of 101 hp. per installation—the largest figure for any industry covered in this series of surveys. It is more than twice the size of the average hotel installation—50% larger than the average theater installation.

Future Plans

The survey made by the N.R.D.G.A. specifically asked members how much money they intended to spend for air conditioning. Analysis of the answers showed that 6.8% of the total modernization expenditures would be so allocated. This means $68,000,000 out of the 5-year, billion-dollar program—or $13,600,000 per year.

In our opinion this N.R.D.G.A. estimate is somewhat over-optimistic and we have taken a figure of

(Continued on next page)



MARKETS. New Orleans' domestic and Latin American markets are "naturals" for the sale of air conditioning and refrigeration equipment. Latin America in 1945 imported $4,527,563 worth of such equipment and parts from the United States. In our own 10 Southern states, mechanical refrigeration is a year 'round necessity in homes, food stores, restaurants, etc. Also, New Orleans alone serves hundreds of vessels which depend upon refrigeration to preserve food cargoes. In the South, air conditioning is essential for the profitable operation of movies, stores, restaurants, hotels and office buildings. For the 10 Southern states, non-residential construction contracts awarded in 1946 totaled $614,784,000. These and other facts we will gladly furnish spell rich, ready markets for your products manufactured here.

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MARKETS TRANSPORT RESOURCES

Market for Central Station Systems--

(Concluded from preceding page)

$11,000,000 per year which is midway between the association's estimate and that based on the total installations actually made in 1940 and 1941.

Other Commercial Establishments

Market Scope

The classification "other commercial" establishments includes such diverse elements as office buildings, miscellaneous retail stores, barber shops, railroad, bus and air line terminals, bowling alleys, meeting halls, apartment houses and many others not included in the classifications already treated individually in this series of surveys.

No data are available to show the over-all size of this "other commercial" classification. It is significant, however, that the U. S. Census of Retail Distribution shows more than 1,500,000 retail stores not included in the classifications already treated individually herein.

Modernization Plans

Since this group of "other commercial" establishments is so diversified, it is impracticable to obtain any definite picture of its modernization plans. The best information is that presented in the F. W. Dodge statistical post-war survey of miscellaneous commercial building modernization projects—not including any of those fields already covered herein by individual surveys—now in the preliminary stage (ready for contracting).

This shows some 12,840 projects involving $2,179,700,000. Since this survey covers work to be done over a period of 2½ years, the annual coverage should be about 5,100 projects involving $875,000,000.

Status of Air Conditioning

According to the figures of the Edison Electric Institute, 35,299 of these "other commercial" establishments have installed air conditioning equipment aggregating 479,006 hp. These installations were made as follows:

Period	No. of Establishments	Horsepower
Up to 1940	20,097	345,957
During 1940	6,474	69,136
During 1941	8,728	63,913
Totals	**35,299**	**479,006**

This works out to an average of 13½ hp. per installation. The largest number of installations was made in the classification "miscellaneous offices." The second largest number was in "miscellaneous retail stores."

With respect to horsepower installed, office buildings came first, and miscellaneous retail stores came second.

Future Plans

No surveys covering any large part of this "other commercial" market have ever been made to determine the attitude toward air conditioning.

A number of persons familiar with the retail trade have expressed the opinion to us that the small retail stores will be forced to follow the lead of department stores and adopt air conditioning on a broad scale. While this seems a reasonable conclusion, it offers no actual yardstick by which to measure the market.

We have, therefore, taken the F. W. Dodge survey of modernization projects in this field showing estimated expenditures of $875,000,000 per year and applied a ratio of 3% to determine the amount to be spent for air conditioning. This gives a figure of $26,500,000 per year.

While it is not to be expected that all the Dodge projects will involve air conditioning, the number of non-air conditioned projects will be offset in large measure by air conditioning installations which are not on the Dodge project list.

In this connection, it is worth noting that Dodge shows about 5,100 projects per year in this "other commercial" field already in the preliminary stage, whereas the number of air conditioning installations actually made in this field in 1940 and 1941 averaged 7,600 per year.

According to the figures of the Edison Electric Institute, the air conditioning installations made in the "other commercial" field in 1940 and 1941 totaled 133,049 hp. If we assume an equal amount of air conditioning activity in 1947 and a cost of $350 per horsepower, we arrive at a total air conditioning expenditure of $46,500,000. This estimate is far higher than that based on the Dodge figures.

We believe it would be reasonable to take a figure of $36,500,000, which is midway between the two.

Industrial Plants

Market Scope

While the November, 1941 Census Report of the U. S. Department of Commerce lists 184,000 manufacturing establishments in the country employing a total of some 7,900,000 workers, only 27,000 of them employ more than 10 persons apiece. This relatively small group of larger manufacturers, however, employs about 82% of the total number of workers and produces 79% of the total output of the country.

Altogether there are 453 separate manufacturing industries. These may be grouped into 12 major classifications as follows:

1. iron and steel
2. machinery
3. non-ferrous metals
4. transportation equipment
5. chemical
6. food (not including meat processing)
7. textile
8. paper and printing
9. wood products
10. rubber
11. leather
12. stone, clay, and glass.

In dollar value of production, transportation-equipment comes first, food-products second, machinery third, and iron and steel fourth.

Modernization Plans

One survey that did not attempt to measure the extent of factory modernization plans in dollars, but simply to get a cross section of thinking, showed the following opinions concerning the results that could be obtained:

	Substantial Improvement Possible	Some Improvement Possible	No Improvement Possible
Modernization of production equipment	45%	50%	5%
Modernization of auxiliary equipment	25%	50%	25%
Modernization of service equipment	24%	53%	23%

The F. W. Dodge statistical summary of post-war modernization projects in the preliminary stage showed 2,591 projects of manufacturing buildings totalling $396,095,000. This would indicate that only about 10% of the "important plants" have so far progressed to the actual planning stage with their modernization programs.

Status of Air Conditioning

According to the figures of the Edison Electric Institute, there are at present 4,759 industrial plants in the United States having air conditioning installations. The aggregate horsepower is 137,329. These installations were made as follows:

Period	No. of Plants	Horsepower
Up to 1940	2,443	94,906
During 1940	970	13,590
During 1941	1,346	28,833
Totals	**4,759**	**137,329**

This works out to an average of 29 hp. per installation, which is comparatively small.

Future Plans

In the survey made by *Factory* magazine a specific question was asked concerning manufacturers' ideas of the place of air conditioning in their postwar modernization plans. The answers showed that 3% consider it a "must," 12% consider it "should" be included, 37% consider it "desirable," and the remaining 48% are either satisfied with their present arrangement or have no opinion.

If we add the 3% of "musts" and the 12% of "shoulds," we have a 15% figure to apply to the total of 27,000 major plants, making about 4,000 which are still likely prospects for air conditioning. This seems to be a conservative estimate since more than that number have already made installations.

Assuming an average installation of the same size as that which has prevailed in industrial buildings in the past, the cost would probably be about $10,000 per installation (29 hp. at approximately $350 per horsepower).

For 4,000 plants the total expenditure for air conditioning in manufacturing industries would then be $40,000,000. If spread over a 5-year period this would mean $8,000,000 per year.

Experience has shown that on new construction of buildings the expenditure for air conditioning averages about 3% of the total investment. Applying this ratio to the Dodge total of approximately $400,000,000 for post-war industrial modernization projects now ready for contracting, we get a figure of $12,000,000 for air conditioning.

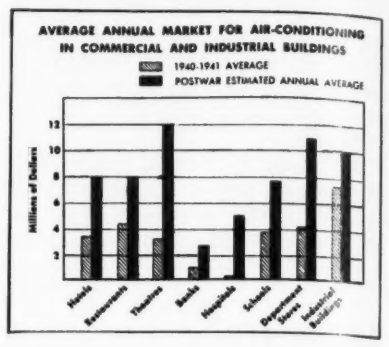
This construction would be spread over 2½ years upon the Dodge basis, showing an annual rate of about $5,000,000 of air conditioning already in the preliminary stage (ready for contracting).

A third way of estimating the amount of post-war air conditioning in manufacturing plants, is to base a forecast on what was actually done in 1940 and 1941.

The Edison Electric Institute's figures show installations aggregating 42,423 hp. in those two years. If we assume that the V-1 activity will equal that of 1940 and 1941 combined, as has often been predicted, and that the cost will be about $350 per horsepower, which appears to be a reasonable figure, we get a total of approximately $14,800,000.

In view of the replies to *Factory's* questionnaire, quoted above, we feel that the $14,800,000 figure may be too high, and prefer a figure of $10,000,000.

Comparing the Estimates With Prewar Averages



Extent of Expenditure On Air Conditioning

In most of the fields covered, we were able to determine rather definitely—from general modernization surveys conducted within the field—the plans that are being made to install air conditioning after the war. These plans were checked against the number of installations already made, as reported by the Edison Electric Institute, and the summary of modernization projects in the preliminary stage as reported by the F. W. Dodge Corp.

The fields covered by the Dodge reports do not coincide exactly with those of the Edison Electric Institute, which we used in our classification of industries. Moreover, the Dodge figures cover only those projects which have reached an advanced stage of planning.

Hence the estimates of air conditioning expenditures—3% of the total modernization expenditures—based on the Dodge reports, give only a general indication of what may be expected. They served, however, as a valuable check against our other figures.

The estimate that 3% of total modernization expenditures will go for air conditioning is based on experience which indicates the following breakdown:

A. Total Building or Modernization Expenditures ..... 100% of A
B. All materials and equipment (60% of A) ..... 60% of A
C. Heating, piping, and air conditioning (12% of B) ..... 7½% of A
D. Air conditioning (40% of C) ..... 3% of A

Finally we compared the estimates based on what has actually been done in 1940 and 1941 with the figures given in the individual surveys conducted within the various industries, and with information obtained from other reliable sources.

After careful examination of all the data, we then made our own estimate of probable annual post-war expenditures for air conditioning. These estimates are presented in the column next to the extreme right in the summary table. They total approximately $100,000,000 as previously stated.



when it's so easy to say "ANACONDA"

ANACONDA COPPER REFRIGERATION TUBES have qualities that assure a dependable, ready-and-easy-to-use refrigeration tube ... qualities that add extra measures of economy and reliability because:

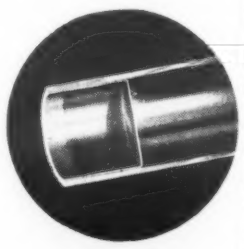
... they are dehydrated to eliminate troublesome moisture.

... they come to you with unusually clean and bright inside surfaces.

... the exclusive Anaconda Cup Seal* reduces waste and protects the inside of the tube from the point of manufacture to the point of installation.

... they are uniformly soft, easy to bend and may be readily flared without cracking.

Anaconda Refrigeration Tubes are 99.9% pure specially deoxidized copper, made to A.S.T.M. Specification B68. They are available in all standard sizes up to and including ¾" O.D. in 50-foot coils. Longer lengths on special order.



*Patent Applied For

OTHER PRODUCTS: Precision-made tubes in Copper, Brass, Bronze and Copper-Nickel Alloys; in sizes from .015" O.D. to 1" O.D. with wall thickness down to .004"; round, square, or irregularly shaped; in coils, straight lengths or special forms. Bourdon tubes, thermal expansion bulbs.

THE AMERICAN BRASS COMPANY—FRENCH SMALL TUBE BRANCH

General Offices: Waterbury 88, Conn. • *Subsidiary of Anaconda Copper Mining Company*

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ANACONDA from mine to consumer

Anaconda Refrigeration Tubes

Refrigeration Problems

And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

The Refrigerated Railway Car (3)

Editor's Note: This is the third in a series of several articles in which Mr. Reed discusses the various problems involved in railway car refrigeration.

TOP-ICING

Another style of car that has provoked a lot of discussion in recent years and which is used to a great extent in Canada but little in the United States, uses "top-icing." It has no end ice-bunkers; instead the ice is placed in shallow bunkers that cover practically all of the top of the car. To load them necessitates having several icing-doors on each side of the roof of the car.

There are several advantages and of course, some disadvantages. Even without fans, it gives good distribution of temperature and it permits maximum use of the volume of the car, for quite often the upper part of the car is not in use anyway. On the other hand it increases the original cost of the car and, because of the several icing doors, it also increases maintenance costs.

It is claimed also that icing costs are somewhat increased, and that it is not as adaptable to the facilities of the icing stations as the end-bunker car. There seems to be considerable reluctance by the railroads in the United States to adopt the top-icing type car.

PRE-COOLING

Meats and dairy products are usually kept in cold storage warehouses or other refrigerated storage before they are loaded into refrigerator cars for shipment to other places, and these products are already pre-cooled and need only to be kept cold in transit.

This is not true of fruits and vegetables that are usually taken directly from the fields and placed in the refrigerator car for shipment to distant places. They are, therefore warm, and the refrigerator car must first cool them and then keep them cool.

This first cooling process requires a lot of refrigeration. Moreover, in order to prevent loss of quality, it is necessary to cool the vegetables or fruits as fast as possible after they are harvested. If they are put into the refrigerator car warm, the ice in the bunkers soon melts and the car must be frequently re-iced. To cool the product down to the proper temperature at which it should be kept, may take several days in this manner, and its quality considerably reduced.

MOBILE MECHANICAL PRE-COOLERS

To avoid re-handling it is desirable to pre-cool the product right in the car, for many of the cars are loaded near the fields or orchards. One method of pre-cooling is by means of mobile mechanical refrigerating units, diesel or gasoline engine driven and mounted on trucks. These move right up to the car and cold air is blown into the car and through the load. Some of these pre-coolers are large enough to cool several cars at one time.

PRE-COOLING WITH BUNKER ICE

Another method is to ice the bunkers and mount two electric motor driven fans with long cords, in the car. This speeds up air circulation and cools the product faster. The ice is melted faster too and the bunkers are re-iced before the car is shipped.

If the car happens to be equipped with floor fans, driven from the wheels, the belt is slipped off and electric motors are mounted on the side of the car and drive the fans during the pre-cooling period.

BODY-ICING

One of the objections to pre-cooling by one of these methods, is that shipment is delayed about a day; a day is lost in getting the product to market and the car is tied up an extra day. "Body-icing" overcomes this objection, for it pre-cools the product while the car is in transit.

Body-icing consists in mixing snow-ice or finely crushed ice right in with the load. A shovelful is put in a crate of celery, for example and while the car is being loaded, the snow-ice is blown in or shoveled in over and throughout the load. The bunkers are iced as usual and as soon as the car is loaded it is ready to roll.

PRE-COOLING ENROUTE

A large part of the body-ice is melted during the first 24 hours and in melting, cools the product down to 35 or 40°, which is then maintained by the bunker ice, re-iced at intervals of 24 or 48 hours as may be necessary. Body-icing is quite successful for many vegetables and fruits. It not only cools them quickly but it also maintains high humidity which is excellent for many of the fruits and vegetables, especially the leafy vegetables, lettuce, broccoli, etc.

It is not suitable for grapes, plums, and others, whose tender skins pop open from absorption of so much water from the ice. Moreover it is quite messy, ruins labels on crates and is rather hard on the car itself.

PRE-COOLING IMPOSES HEAVY LOAD

Pre-cooling the load requires a great deal of refrigeration compared to merely keeping the product cold after it is down to temperature. To indicate how much refrigeration is required for pre-cooling: the ordinary refrigerator car requires about 3,500 pounds of ice per bunker or about 3½ tons for both bunkers, which, even in warm climates will maintain product temperatures of about 40°. The amount of body-ice required to pre-cool a load may be as much as 5 or 6 tons and it probably will be mostly melted during the first 24 hours.

A mechanical refrigerating system for a refrigerator car, if it were of sufficient refrigerating capacity to cool down a warm load during the first 24 hours, would, therefore, need to operate only at one-third capacity or even less, during the rest of the trip, just to maintain the temperature. This would have to be taken into consideration in the design of the mechanical system and in its original and operating costs.

(To Be Continued)

RSES Chapter Sponsors This School



Both day and night classes in refrigeration are conducted at the Long Beach, Calif., refrigeration school sponsored by the local RSES chapter. Members of the day class pose around a German-made box from South America. Front row (left to right): R. S. Curtis, W. V. Waldeman, H. L. Phillips (instructor), and John G. Perdue. Standing (left to right): Frank Allison, George Hines, Robert Rackham, Alden L. Munns, Carl L. Smith, Warren P. Bromwell, Jefferson Moses, and Virgle E. Kennedy.





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- The unique construction of the Sporlan Catch-All provides effective moisture and dirt elimination in refrigeration systems.
- The drying agent of the Sporlan Catch-All unlike other drying agents is a *moulded porous cylinder* which *both* dehydrates and filters . . .

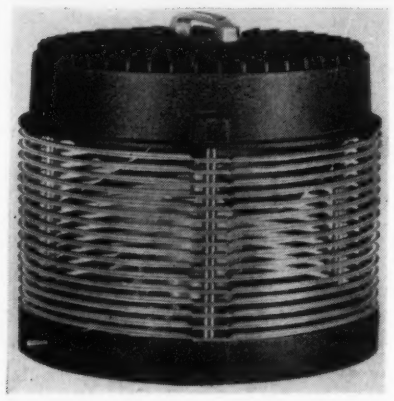
IT CANNOT POWDER! • IT CANNOT PACK!

For Peak Performance on all installations install a Sporlan Catch-All and take advantage of these extra features

- The Sporlan Catch-All will reduce the moisture content in an average installation with Freon, Methyl Chloride or Sulfur Dioxide refrigerant to at least 40% below accepted commercial standards!
- The Sporlan Catch-All will catch all scale, solder particles, carbon, sludge, dirt or any other foreign matter *as minute as 9 microns* with negligible pressure drop!

SPORLAN VALVE CO.
3723 COMMONWEALTH AVE., ST. LOUIS 17, MISSOURI

What's New



* * *

Circulator Sends Column Of Air Up from Floor

LOS ANGELES—An indirect air circulator, designed to keep the air at the floor and ceiling of a room at the same temperature, is now being manufactured by Motionair, Inc. here.

As explained by W. H. Newsome, Motionair sales manager, the unit draws cold air off the floor and aerodynamic louvres in its top direct the air straight upward. This column of air forms a static pressure against the ceiling from where it mushrooms out and keeps the atmosphere at an even temperature.

Two models of the circulator are in production, Mr. Newsome said, a Model "E" and a Model "B" Deluxe.

The Model "E" is powered by a 1/30-hp. Eastern Air Devices motor operating on 60 cycle, 110 to 120 volts a.c. current. It displaces 900 c.f.m. from a 12 in., 18° pitch fan blade. Listing at $45 plus Federal excise tax, it weighs 26 lbs. packed for shipping.

The Model "B" Deluxe is powered by a 1/15-hp. Eastern Air Devices condenser type motor operating on 50 to 60 cycle, 110 to 120 volt, a.c. current. It is equipped with a 12 in. 30° pitch fan blade which displaces 950 c.f.m. on low speed and 1,600 c.f.m. on high speed.

A two-way, center off, switch, located at the base of the unit, permits heavy drive to establish circulation promptly and then the half-speed drive to keep the air in gentle motion without creating drafts, Mr. Newsome said.

The deluxe unit also has a handle cast into the top of the frame for carrying purposes. It lists at $65 plus Federal excise tax and weighs 21½ lbs. packed for shipping.

Both units are made of die cast aluminum. All wiring is said to be insulated and protected against short circuits formed by moisture or misuse.

It is said that the fan in winter makes use of the heat ordinarily lost near the ceiling and in summer takes the cool air from the floor and spreads it through a room.



* * *

Hotpoint Refrigerator--

(Concluded from Page 1)

top shelf, and there are two small shelves for small packages. Two large high-humidity storage compartments for fruit and vegetables have transparent plate glass tops.

Another innovation is the "basket sliding adjustable shelf." A protective rail prevents dishes from tipping when the entire shelf is removed.

A new trigger-action" latch that automatically "seals the door" with the touch of a finger tip, and a left-over rack pivoted to swing out of the cabinet for easy removal of its four glass-covered jars, are other equipment.

The new EC10-1 refrigerator is 63 in. high, 30 in. wide, and 29 in. deep.



* * *

Jewett Associates Names Alarm 'Freezer Sentry'

BUFFALO—Freezer Sentry, a device which sounds an alarm when the temperature inside a frozen food cabinet rises to between plus 12° and 15° F., is announced by Jewett Associates here.

When the temperature rises, the firm explains, a drop of mercury falls to the bottom of a plastic tube, making an electrical contact. The buzzer is operated by two flashlight batteries.

"A trickle charger, connected to the electrical circuit, insures a 5-year life of the batteries," Jewett claims. "It provides 100 hours of continuous operation of the buzzer."

The alarm can be installed by anyone on any home or commercial freezer, it is asserted.

Frigid-Freeze Mounts New Display Cabinet on Wheels

NEW YORK CITY—The Frigid-Freeze "Spot Special," described as the first open-top, self-service frozen food display cabinet-on-wheels. has been introduced by Noma Electric Corp.

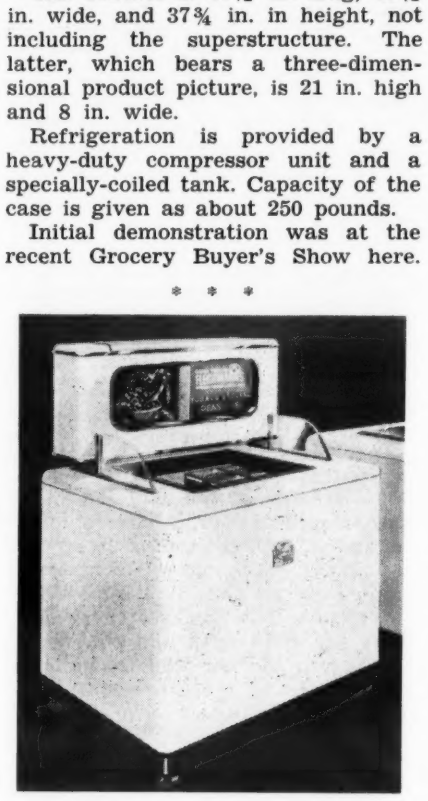
It was designed, according to the company, to permit frozen foods and ice cream to be moved at will to any traffic center in a store. This feature, it is pointed out, "adds to customer convenience, promotes buying interest, and should help move frozen foods more regularly and in greater volume."

The cabinet is 46½ in. long, 29¾ in. wide, and 37¾ in. in height, not including the superstructure. The latter, which bears a three-dimensional product picture, is 21 in. high and 8 in. wide.

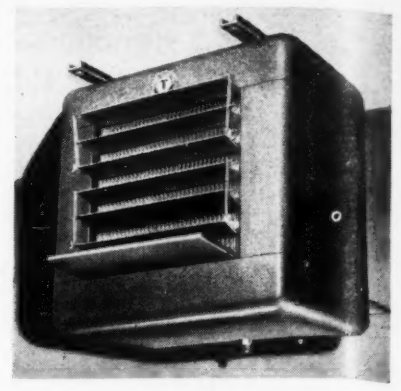
Refrigeration is provided by a heavy-duty compressor unit and a specially-coiled tank. Capacity of the case is given as about 250 pounds.

Initial demonstration was at the recent Grocery Buyer's Show here.

* * *



Frigid-Freeze "Spot Special"



* * *

Unit Cooler Has Comfort, Commercial Application

NEWARK, N. J.—An insulated unit cooler designed for either comfort cooling or commercial refrigeration applications and remotely operated has just been introduced by Tenney Engineering, Inc., here, manufacturer of temperature and humidity control equipment.

Big advantage claimed for the new cooler is that several of them, strategically located and operated from a common condensing unit, will cool "a considerable area" without the necessity of duct work. An economy of space, a minimum of installation work, and elimination of drip pans because of efficient casing insulations are other advantages cited.

According to Tenney, the unit will cool spaces up to 15,000 cu. ft. in volume. Where larger areas are involved or where a more even dispersion of air is desirable, the company recommends the use of multiple units.

Sizes of the cooler range from 19¼ x 19½ x 12½ in. to 43 x 23½ x 12½ in. Each is finished in a maroon crackle outside coating.

The coolers can be used for the comfort cooling of offices, small stores, storage space, or work rooms.

ARE YOU PAYING TOO MUCH FOR TOP-GRADE INSULATION?



If you haven't heard about the completely new and revolutionary method of fireproof refrigeration construction developed by Gold Bond engineers—chances are you're paying *much* too much! Important, too, this new method of using Zerocel Insulation means much more than just big savings over old fashioned methods. It insures greater efficiency and permanence.

Zerocel installed with metal lath, channels, and Portland cement plaster replaces old-style construction methods using board forms of insulation and provides stronger walls, ceilings (that won't fall down), and a better looking finish. With this construction, condensation does not occur in the insulation.



This versatile method, a development of National Gypsum Company's 20 years' experience in the construction industry, applies equally well to locker plant, cold storage warehouse, and processing plant problems. Find out all about this new method today! Fill in the coupon below and mail to Industrial Division, National Gypsum Company, Buffalo 2, N. Y.

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Please send me a FREE copy of the new Gold Bond Zerocel Booklet, "Fireproof Refrigeration Construction." A-5
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EQUIPMENT FOR SALE

Air conditioning units consisting of ½ hp Bishop-Babcock Compressor Body made for B & B by Servel Refrigerator Co.

1 16" X 24" Kramer Double row condenser.

1 3½" X 14" heavy duty receiver with safety plug and test cock with approximately 5 lbs. of "Freon."

1 Detroit Lubricator 2 ton Expansion valve.

1 Peerless Thermac evaporator blower unit cooler 12" X 24" X 6".

10 ft. each of ⅝" and ½" tubing with vibrator eliminator attached.

Compressor body base attachable to automobile motors.

Also 60 other items including bolts, nuts bases, and brackets.

These units were built for Chrysler Corp to condition their Chrysler cars.

All the above equipment is new. Cost approximately $300.00. Our price $70.00 F.O.B.

These units are knocked down in shipping crates weighing approximately 200 lbs

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It's different!



MODEL SS—21 cu. ft. Capacity
FROZEN FOOD DISPLAYER

REFRIGERATED DISPLAY WINDOW

Permits the display of open packages. The opened up package—frozen food as it will look when it reaches the home, stimulates buying, increases frozen food sales. Triple glass, brilliantly lighted display.

MAXIMUM STORAGE SPACE IN MINIMUM FLOOR AREA

Self contained refrigerating machine mounted beside display window. Heat rises away from refrigerated space. Condenser does not pick up floor dust. Low operating cost.

REFRIGERATED PLATE ABOVE THE STORAGE AREA

When lids are removed for rapid self service, display window refrigerated plate spreads a blanket of cold air over top of food avoiding rapid softening. Food can be piled closer to top providing more storage space. *Stainless steel or transparent sliding top.*

Write for full information and prices.
Immediate deliveries.

GOODSELL CORPORATION
1820 Flushing Avenue • Brooklyn 6, N. Y.

What's New (Cont.)

Goodsell Line Gets 21-cu.ft. FF Display Cabinet



BROOKLYN — Goodsell Corp. here announces the addition of a new 21-cu. ft. self-service cabinet to its line of Frosted Food Displayers.

The cabinet is said to incorporate two features of all Goodsell cases: the refrigerated display window in which frosted food may be uncovered, and the self-contained unit mounted beside the window "where it uses no floor space and is accessible."

"The display-window refrigerated plate lays a blanket of cold air over the top of the food in the storage compartment, avoiding rapid softening of the food when the cabinet is operated with the lids off," the company said. "Only the front half of the cabinet top is open when operated without lids, reducing cold loss but not impairing accessibility or mass display effect."

Stainless steel or Thermopane lids, adjustable dividers in the storage section, exterior panels of bonderized steel finished in baked white enamel, wearing surfaces of stainless steel, and 4 to 6 in. of vapor-sealed insulation are other features listed.



Kit Features 142 Motor Brushes In 19 Styles

ST. MARYS, Pa. — One hundred and forty-two motor brushes of 19 separate styles are included in the Pure Carbon Co.'s Kit No. 4.

With a little sanding, a brush from this kit will fit 90% of all refrigerator motors, the company claims.

Each type of brush in the kit is housed in a separate, removable, metal-edged box. The kit itself is constructed of heavy, metal-edged cardboard, the company says.

Landers, Frary & Clark Introduces Bantam Range



NEW BRITAIN, Conn.—A bantam electric range which can be plugged into any appliance outlet has been introduced as one of the Universal Speedliner ranges by Landers, Frary & Clark, it was announced here.

The bantam range, which with an attached storage cabinet measures 22½ in. wide, 14 in. deep, and 42 in. high, is said to be able to bake, broil, roast, and cook.

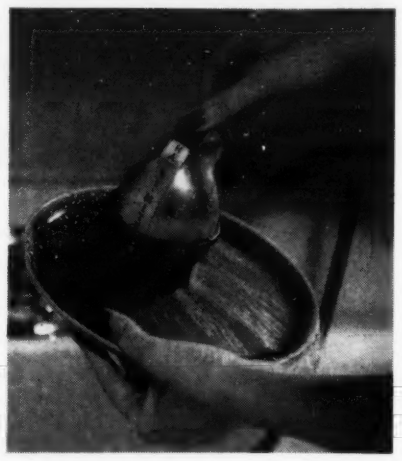
Imbedded coils wrapped around the all-steel, heavily insulated oven lining provide a maximum input of 1,650 watts thermostatically controlled for baking and roasting.

Two units, mounted on a steel frame, can be used interchangeably for broiling or surface cooking.

While the oven door and oven lining are porcelain enamel, all other surfaces have a Hi-baked white enamel finish with chrome trim.

Other features of the unit include two sliding shelves which can be manipulated into six positions and a permanently attached 6 ft. cord.

The attached all steel cabinet contains two shelves for storage.



* * *

Dishwashing Speeded by Franklin Corp. 'Handi-Mite'

LOS ANGELES — A device described as a "new portable dishwasher" is now being manufactured by the L. K. Franklin Corp. at 1241 S. Hill St. here.

Known as the Handi-Mite, it consists of a hose with a faucet adapter at one end and a chamber containing a special detergent in cake form at the other end. A set of nylon and fine wire brushes screw onto the detergent chamber.

The nylon brush is for cleaning dishes and the wire brush is used to scrub pots and pans, the manufacturer says.

The hose, he explains, is attached to a water faucet by the adapter, which is able to adjust to any size faucet. Water runs through the hose and, when a button on the detergent chamber is pushed, over the detergent and thence through the brush to the dish or pan.

When the button is released, he adds, the water bypasses the detergent and flows directly on to the dish for rinsing.

Cleaning is accomplished by the housewife maneuvering Handi-Mite over the surfaces of the dish.

The device retails at $9.75, according to the manufacturer.

The detergent, known as "Brite-Wash," is also manufactured by the L. K. Franklin Corp.

"ATTENTION"
Refrigeration Dealers in New York State Vicinity

Announcing our new and improved "Walk-In Coolers" and "Freezers," built of Finest Grade Polished Aluminum Alloy or of the Finest Grade of Kil-Dry Lumber.

Also announcing the newest thing in Refrigeration: "The Amazing New **Freezocool**," the combination Cooler and Freezer.

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"Manufacturers of all Commercial and Home Refrigeration Units."

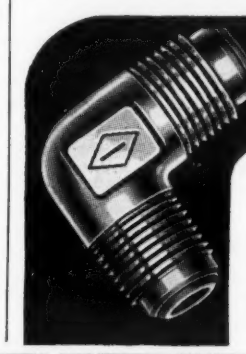


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When the flare is drawn against this groove the copper tubing is extruded into the groove making a tight, self-sealing joint. Here is the joint that remains leakproof even though the face of the seat may be nicked or marred. This extra seal of safety is a plus feature that costs no more. Included in all sizes ⅜" and larger.

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SELL "BAYERS" AND MAKE FRIENDS OF YOUR CUSTOMERS . . . PERFECTED IN 12 YEARS OF RESEARCH . . . THOUSANDS IN PRAISE-WORTHY USE . . . NOTHING ELSE LIKE IT ON THE MARKET.



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ACT NOW! DEALERS EVERYWHERE ARE MAKING QUICK PROFITS! WRITE, WIRE OR TELEPHONE FOR COMPLETE DETAILS ABOUT "THE BAYERS" . . THE SMALLEST . . FOOLPROOF CARBONATOR BUILT.

ALL OVER THE WORLD BAYERS PRODUCTS MADE IN U.S.A. – TRADE MARK REG.

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HOME AND FARM FREEZERS

6-12-18 Cubic Foot Sizes



★ 18 YEARS EXPERIENCE in the manufacture of low temperature cabinets.

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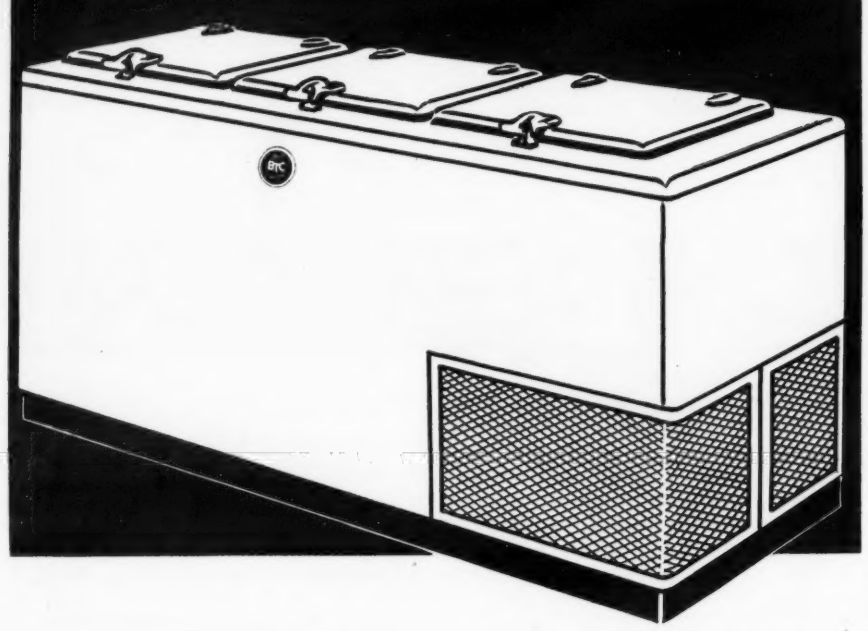
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BTC FOOD FREEZERS

Rapid Freezing and Constant Temperature Storage



Engineered and designed for the exacting job of low temperature, food freezing, the BTC Food Freezers embody all recommended performance standards for home and farm food freezers.

BTC Food Freezers are made by The Brewer-Titchener Corporation, specialists in metal fabrication for over 100 years and manufacturer of the famous BTC Evaporator Plates.

The BTC Food Freezer line includes four sizes: 10, 12½, 18 and 23 cubic feet, in dimensions of 74", 76", 98½" and 121" long by 28" wide by 33¾" high; will go through standard doorways easily; and with ⅓ hp., 110-120 V. and ½-hp., 220 V. motors.

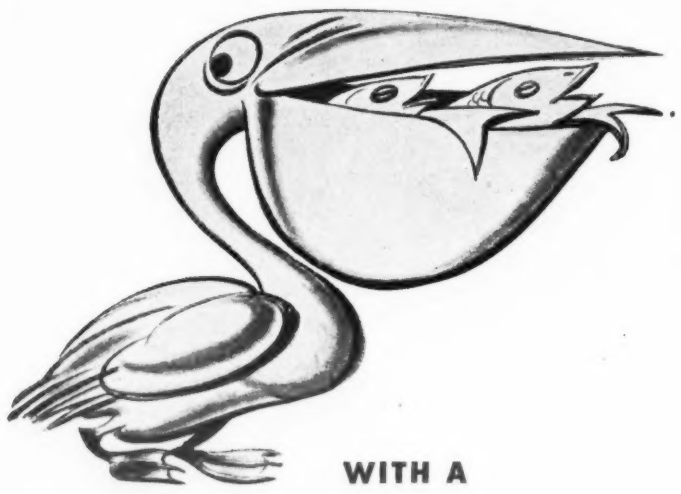
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"Fill it and Forget it"



WITH A

Virginia Refrigerant

Here's a recipe that will help reduce the number of costly service call-backs. Ask for and get Virginia Sulfur and Methyl, the refrigerants that are pure. Every cylinder is triple-tested to eliminate dirt, oil, and moisture which causes sludging, copper plating, frozen expansion valves and other common troubles. Virginia Refrigerants are world-renowned for purity and dependability. Buy them from your wholesaler. VIRGINIA SMELTING COMPANY, West Norfolk, Va. *Established 1898.*

Distributors for Kinetic's "Freon" Refrigerants

"EXTRA DRY ESOTOO"

"V-METH-L"



VIRGINIA Refrigerants

WEST NORFOLK • NEW YORK • BOSTON • DETROIT

Servicing Truck Refrigeration Units

Editor's Note: An analysis of typical service complaints and suggested remedies for truck refrigeration systems employing hold-over plates begins with this instalment, which is a continuation of the series on truck refrigeration servicing. This material was prepared through the cooperation of Kold-Hold Mfg. Co.

Instalment No. 37

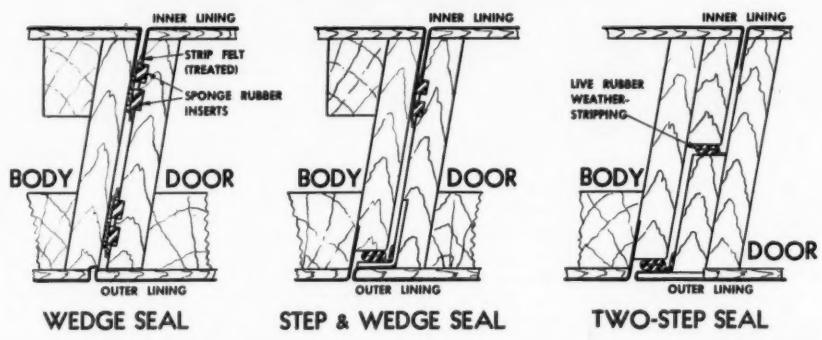


Fig. 16—Proper gasketing and sealing of doors on trucks is important. Here are three suggested methods for sealing flush-type doors.

* * *

General Operating Instructions

To achieve proper refrigeration, it is necessary that the eutectic solution in the truck plates be frozen solidly before the truck is placed in service. On most installations about eight to 12 hours are required to freeze the plates.

Service doors on the trucks should be well gasketed and kept tightly closed when not in use. Fig. 16 shows three methods of mounting and gasketing flush type doors. The doors should not be kept open any longer than necessary when loading or unloading, and it is well to make sure that no ice or frost is present to prevent the doors' seating properly against the gaskets.

Frost will accumulate on truck plates, but it should not be allowed to become thicker than ⅜ in. It can be brushed or scraped off. Daily brushing will keep the frost at a minimum. Brushing is a satisfactory defrosting method in nearly all instances, although there are some installations which employ hot gas defrost systems.

Periodic inspection of belts, motor bearings, switches, cut-out and cut-in settings will prevent many service calls. A check list for these inspections should be attached to the condensing unit in a prominent place.

Condenser coil of the condensing unit must be kept free of dirt and dust. More frequent inspection of condensers on truck-mounted units will probably be necessary. A sliding condensing unit mounted such as shown in Fig. 17 simplifies inspection and servicing.

When making these various periodic inspections be sure to check all fastenings of the condensing units, truck plates, and lines. All bolts tend to loosen after a time, especially under the tough conditions encountered in a truck installation.

Plates mounted on the sides or top of a truck may have a tendency to shift position, due to sudden stops or starts of the truck. This is more likely to occur in installations which have been in service for some length of time. Shifting lines or plates may cause refrigerant leaks.

Typical Service Calls ('F-12' or Methyl)

Complaint

1. *No refrigeration.* Condensing unit not operating.

Causes

A. *No power.* Check power line to be sure power is available.

B. *Blown fuses.* If blown, check wiring and motor for short circuits.

C. *Defective motor.* Check motor brushes, windings, leads, etc.

D. *Defective motor control.* Examine controller contacts. They may be burned and not making good contact. Examine thermal relay and overload button. Test magnetic coil.

E. *Defective high and low pressure cut-outs.* Those that operate by means of a bellows should be checked for leaks. Mercury types may have broken mercury tubes.

Complaint

2. *No Refrigeration.* Condensing unit operating.

Causes

A. *Lost refrigerant charge.* Carefully check the liquid level in the condensing unit receiver by means of the level indicating valve. If the receiver does not have such a valve, loosen the flare nut on the liquid line leading from the liquid valve of the receiver. If gas or gas and oil blow out, there is little or no charge in the system. In this case the suction or low-pressure gauge will show either too low or too high a reading.

A lost charge means a leak somewhere in the system. If the truck has been in operation for several months, the leak is probably a small one. In order to locate the leak it may be necessary to add some gas to the system to get a sufficient pressure (50 lbs. pressure or more).

B. *Expansion valve frozen.* If the system has a full charge of refrigerant, but the low-pressure gauge shows an excessive vacuum, the needle of the expansion valve is probably frozen. Usually the valve will be cold.

Shut off the condensing unit and permit the valve to warm up. The suction pressure will rise. If the condensing unit is started again the system will operate until the moisture in the refrigerant freezes at the valve.

Installation of a good dryer will usually remove this moisture. Ethyl alcohol should not be placed in the system to prevent freeze-ups, for it will cause the receiver of the condensing unit and the coils in the truck plates to rust.

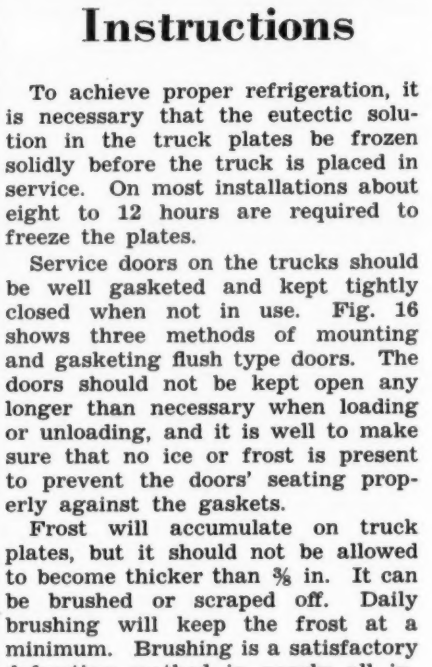
In extreme moisture conditions, it is suggested that the entire refrigerant charge be removed and the condensing unit be operated for five hours or more to pull a strong vacuum on the system. Then the dryer should be removed and a new one installed. Recharge the system with moisture-free refrigerant.

C. *Power element has lost its charge.* This condition is usually indicated by a warm expansion valve. If the valve fails to open after the condensing unit is shut down, it is likely that the power element has lost its charge. Shut off the liquid receiver valve and pump down the system until the suction pressure gauge reads 0 or shows a slight vacuum. Then replace the defective expansion valve with a new one.

(To Be Continued)

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Refrigeration Appliances, Inc.
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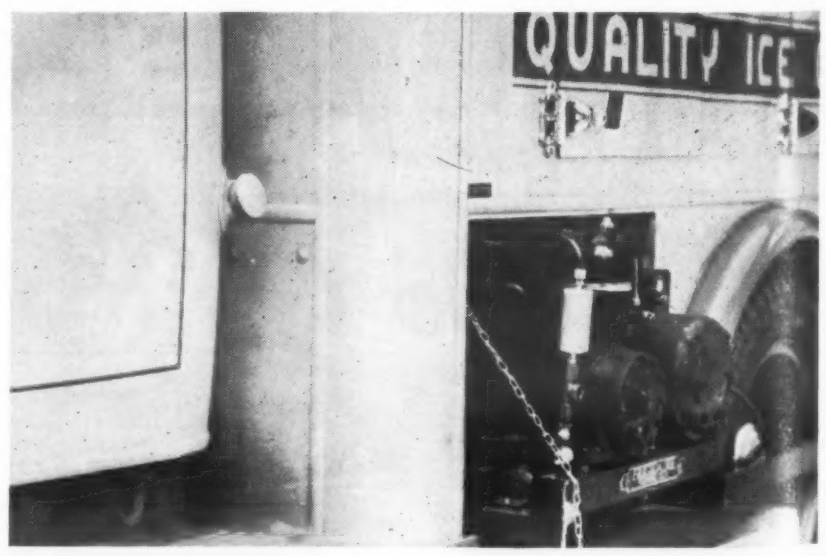


Fig. 17—A slide-out base for a condensing unit can simplify inspection and servicing of the machine.

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NERA Cites Trade Practices That Tend To Hamper Profitable Dealer Operations

CHICAGO — Thirteen trade practices which some electrical retailers consider to be in need of immediate correction by manufacturers of electrical appliances and radios were outlined to representatives of 20 such manufacturers at a recent meeting sponsored by the National Electrical Retailers Association here.

These practices covered franchises, advertising helps, sales to builders, retailer's discount, service, trade diversion, descriptive tags, rural electrification, fair trade prices, price cut and model protection, installation costs, trade-ins, and tie-in selling.

Mfr. Representatives Told

NERA's recommendations on these subjects were presented to the manufacturers' representatives by Herb Names, vice president, member of the board of governors, and chairman of the manufacturer-wholesaler relations committee.

They were prepared at a two day meeting of the association's board of governors, policy committee, and manufacturer-wholesalers relations committee held just prior to the presentation.

Paul Kees, NERA president, presided at the meeting. He was assisted by C. C. Simpson, NERA managing director, and Mr. Names.

Manufacturers represented at the conference included: Admiral Corp., Gibson Refrigerator Co., Landers, Frary & Clark, Hotpoint Inc., Philco Corp., Tyler Fixture Co., Barlow-Seelig Co., Nash-Kelvinator Corp., Pressed Steel Car Co., Zenith Radio, Thor Corp., Conlon Corp., Nutone, Inc., Mullins Mfg. Corp., G-M Laboratories, Inc., Farady Electric Corp., Waage Mfg. Co., The Silex Co., Edwards & Co., and Proctor Electric Co.

Protection for Franchises

On franchises, Mr. Names told the manufacturers' representatives, "We firmly believe that ways and means should be found to make franchises a greater asset and more protection to the electrical retailer."

He cited an instance where on one shopping thoroughfare, which stretched five miles through two adjoining surburban communities, there were 50 franchises for the same automatic washer. In one spot, there were three in one block, he said.

Mr. Names deplored a situation in which dealers are forced to buy store banners, signs, and other "advertising helps" at "exorbitant" prices in order to get merchandise they want and need.

"One dealer," he said, "was forced to pay $115 for advertising helps to secure two washers. He didn't even make that much on their sale. He states that he is a great believer in promotions but thinks there should be some sensible limit on cost."

Standard Discounts Only

"NERA believes," Mr. Names went on, "that manufacturers-distributors should market their products only through regular retail outlets. In case of sales made to contractors for new homes and on FHA financed deals, the manufacturers-distributors should channel these sales through regular dealers at a standard discount."

Mr. Names pointed out that manufacturers have already been informed in great detail why dealers think they must have a minimum 40% trade discount and the industry's customary cash discount.

"Perhaps the greatest argument for adequate trade discounts is the obvious fact that low markup will not cover servicing expenses," he declared.

"One dealer pointed out . . . that on one radio set alone, due to poor inspection at the factory, he has recently spent $48 on a sale on which he only made $40. This is a name brand, which likewise has a poor discount structure."

No More 'Back Door Selling'

The old, vicious practice of "back door selling" by some wholesalers must be eliminated, Mr. Names asserted. "Manufacturers may not control the actions of their distributors, but manufacturers should aggressively support a program to eliminate this malpractice," he stated.

He noted that the electrical retailer has tremendous problems resulting from the Rural Electrification Administration's co-ops merchandising appliances and equipment at prices far below those a private company can possibly offer.

This problem, he indicated, will get a thorough airing at the National Farm Electrification Conference to be held in Indianapolis next October. NERA representatives will be present at that conference, he said.

To illustrate, Mr. Names cited the case of a Maryland appliance retailer who reported: "The co-op has particularly hurt us in the sale of home freezers, since a dairy farmer has perhaps more year-round use for this equipment than any other farmer.

Untaxed Co-op for Rival

"We are endeavoring to train a competent staff to handle farm problems, but we are up against a co-op that did a $2,000,000 business last year and still pays no taxes.

"We want the farmer's trade, but we are having to fight this unfair competition to get it."

NERA encourages electrical manufacturers to place more of their products under fair trade laws in order to prevent promiscuous price cutting, Mr. Names declared.

He further stated that the association's dealers "unanimously agree that it is unfair to ship appliances and radios and then cut prices."

"On the other hand, they applaud those manufacturers who do extend a price guaranty and model protection," he added.

Trade-Ins Key Problem

"To ignore trade-ins as an important factor in the market ahead is to invite disaster," Mr. Names warned. He pointed out that when used cars became a problem in the automobile industry, manufacturers pitched in and developed ways and means of helping dealers solve the problem before it ate into the dealers' profits and tore down the industry.

Acknowledging his belief that inequalities in the allocation of merchandise will right itself as the production picture improves, Mr. Names, however, asserted that the practice which has most exaggerated the present maldistribution is the fact that some distributors have forced tie-in sales upon retailers.

Contractors Will Hear Discussion on Moisture

DETROIT—A lecture and demonstration on the effects of moisture in a refrigeration system will be presented at the June meeting of the Refrigeration Contractors Association of Detroit next Thursday by an engineer of the Davison Chemical Corp. of Baltimore, Frederick R. Bolton, association secretary, has announced.

The meeting, which will be held at 8:30 p.m. in the Hub Kafeteria, 13540 Woodward Ave., will be sponsored jointly by the Lee Equipment Co., local parts wholesaler, and the Davison Chemical Corp., Mr. Bolton has revealed.

Carrier Completes Job For New Midwest Hotel

CINCINNATI—Carrier Corp. has installed the centrifugal refrigeration units in the Terrace Plaza hotel building here, the installation consisting of three machines which furnish 1,500 tons of refrigeration to the new $12,000,000 store and hotel building.

All three compressors are electric motor driven with horsepowers of 250, 600, and 700, respectively, and collectively will cool 2,400 gallons of water per minute from 57° to 42° F.

Thomas Emery's Sons, Inc., owners and operators of the Netherland Plaza, Cincinnati, expect the Terrace Plaza to open its doors in the early winter of 1947.

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REPRESENTATIVES IN PRINCIPAL CITIES—SEE YOUR TELEPHONE BOOK

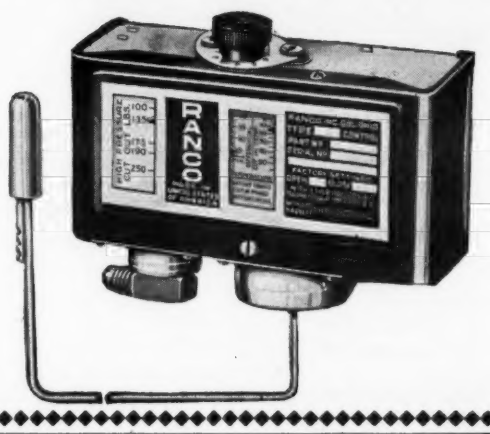
OVER 1200000 RANCO CONTROLS

TESTED BY USE in the Refrigeration Industry

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Ranco Type "O" Commercial Controls, standard of quality in the industry, embody all Ranco developments and accurately meet the requirements of commercial refrigeration.

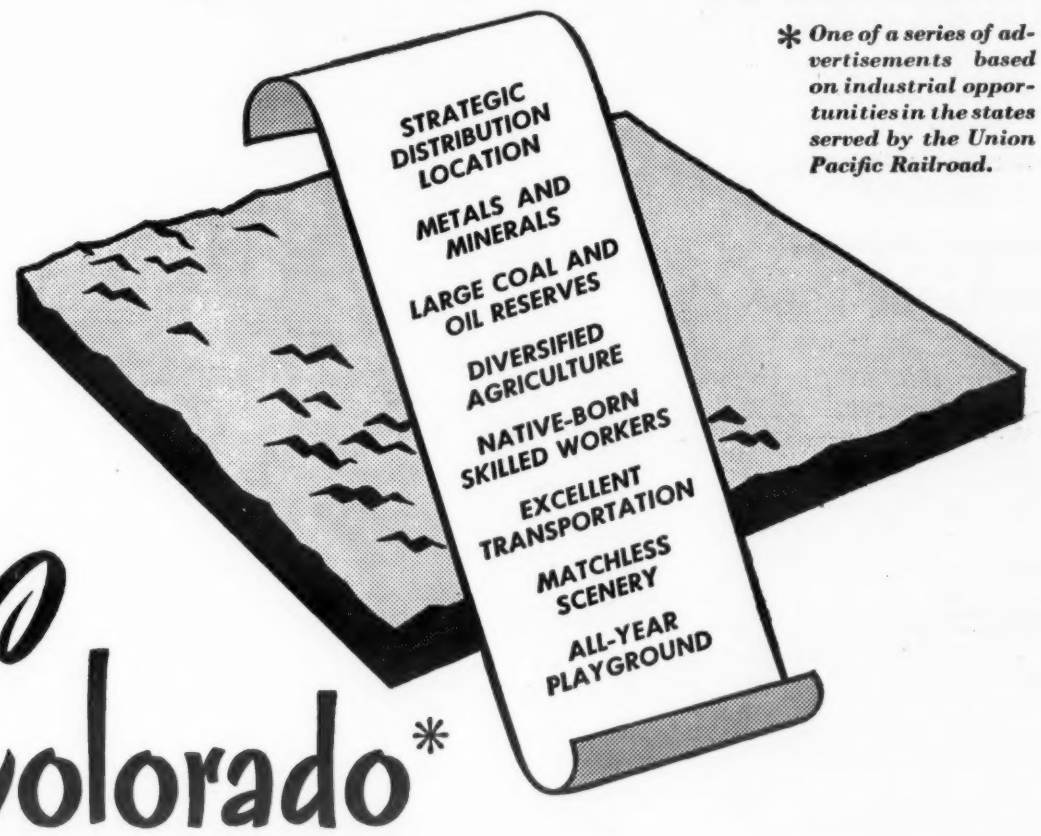
See your Jobber and write for Bulletin No. 1042 on Ranco Type "O" Commercial Controls.



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UNION PACIFIC TREASURE MAP OF INDUSTRY

* One of a series of advertisements based on industrial opportunities in the states served by the Union Pacific Railroad.



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Colorado offers industry many desirable sites for manufacturing, warehousing, and other purposes. It is strategically located for national distribution.

Diversified agricultural products are of high quality due to favorable climate and soil.

More than 250 useful metallic and non-metallic minerals and compounds have been found, including precious uranium. Timber, oil and coal are practically unlimited.

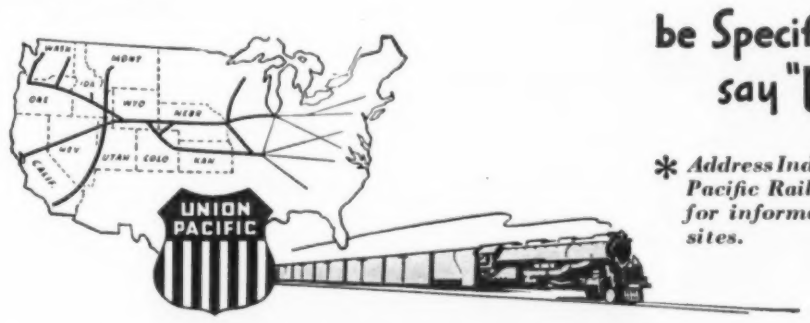
Native-born skilled labor, and a healthful climate resulting in fewer "time-outs" assure economical production.

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Thousands of vacationists enjoy its mountainous splendor, cool summer breezes and winter sports.

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Brand new sets of 1 outside door (6" cork insulation) and 2 vestibule doors . . . all 3 Galvanneated sheet metal covered front and back, includes complete door frames and accessories.

Subject to prior sale.

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UNIQUE "CROSS-FLO" DESIGN eliminates roiling, dusting and packing of drying agent, which eliminates pressure drop, clogging, poor refrigerant control performance and expensive call backs—permits installation in liquid line, suction line or between refrigerant control and evaporator.

Ask Your Wholesaler Or Write

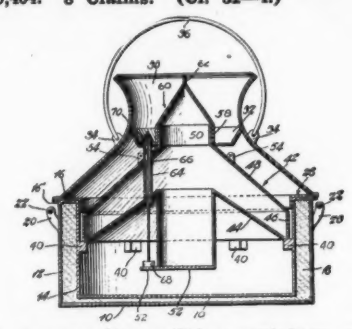
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PATENTS

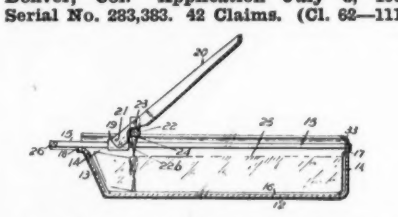
Week of April 1 (Continued)

2,418,310. PRECOOLING MILKING CONTAINER. Ralph M. McDade, Mebane, N. C. Application Feb. 23, 1945, Serial No. 579,404. 8 Claims. (Cl. 31—4.)



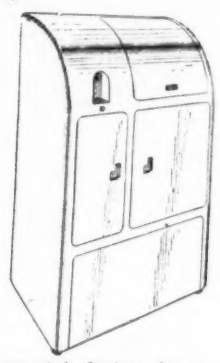
1. A precooling milking container, comprising a base milk receiving receptacle, a removable top structure for said base receptacle having an upper outwardly flared neck portion formed centrally of said top structure, a closed refrigerant holder positioned within said base receptacle and extending into said top structure, said refrigerant holder being uniformly spaced from the opposed walls of said base receptacle and said top portion, and independent handles for said base receptacle, said top structure, and said refrigerant holder.

2,418,434. METHOD AND MEANS OF HARVESTING ICE. Richard M. Storer, Denver, Col. Application July 8, 1939, Serial No. 283,383. 42 Claims. (Cl. 62—111.)



42. An ice freezing tray and ice fracturing means adapted to slidably engage said tray, said means being operable to pierce and thereby fracture ice in the tray.

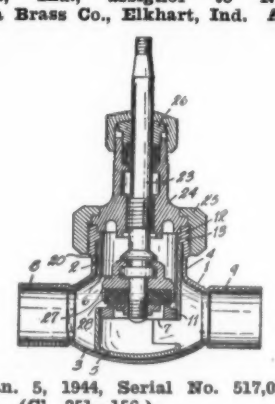
146,541. DESIGN FOR A REFRIGERATOR. Alice G. Hansen, New York, N. Y. Application Sept. 20, 1945, Serial No. 122,210. Term of patent 14 years. (Cl. D67—3.)



The ornamental design for a refrigerator, as shown.

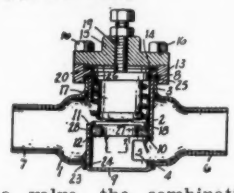
Week of April 8

2,418,447. VALVE. Alfred C. Arbogast, Elkhart, Ind., assignor to Northern Indiana Brass Co., Elkhart, Ind. Application Jan. 5, 1944, Serial No. 517,034. 14 Claims. (Cl. 251—156.)



13. In a valve, the combination of a tubular outer body member having a tubular lateral extension, a tubular inner body member disposed concentrically within said lateral extension of said outer body member to project therefrom and extending into the outer body member transversely thereof, said inner body member having oppositely disposed axially spaced fluid openings each opening to an end of said outer body member, the sides of said inner body member between its said fluid openings being brazed to the adjacent sides of said outer body member to provide a sealed joint therebetween, and an adapter surrounding the projecting end of the inner body member and brazed thereto.

2,418,448. VALVE. Alfred C. Arbogast, Elkhart, Ind., assignor to Northern Indiana Brass Co., Elkhart, Ind. Application Jan. 10, 1944, Serial No. 517,679. 9 Claims. (Cl. 251—156.)



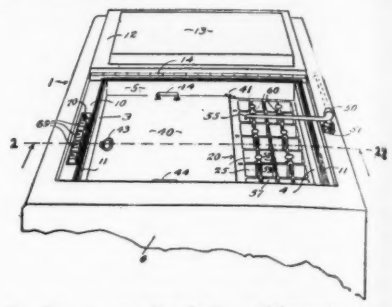
1. In a valve, the combination of a tubular outer body member having a tubular lateral extension and having a flanged opening opposite its lateral extension, a tubular inner body member disposed transversely within said outer body member and concentrically within the lateral extension thereof and the flange of said opening and spaced from said extension and flange to provide capillary spaces between them and brazed together within said spaces throughout the peripheries thereof, the inner body member having an out-turned flange at one end overlapping the end of the lateral extension of said outer body member and an end wall at its opposite end, said inner body member having axially spaced fluid openings on opposite sides thereof, each opening communicating with one end passage of the outer body member portions of the opposite sides of the inner body member between said fluid openings being spaced relative to the adjacent side surfaces of said outer body member to provide capillary spaces, the body walls being sealingly brazed together within said spaces, an adapter collar embracing the end of the lateral extension of said outer body member and the outturned flange of said inner body member and spaced therefrom to provide capillary spaces between them and brazed together within said spaces, and an annular valve seat member arranged concentrically within said inner body member axially intermediate of said openings and peripherally spaced from the wall thereof to provide an annular capillary space between them and brazed together within said space.

2,418,530. ICE-CUBE TRAY. Homer R. Tharp, San Antonio, Tex. Application Oct. 3, 1945, Serial No. 619,920. 3 Claims. (Cl. 62—108.5.)



3. In an ice-cube tray, the combination of a cup section, a bottom section integral with said cup section, said tray provided with a transversely extending mouth at one end, said cup section being radically beveled at said mouth, said cup section provided with an elongated inwardly extending handle overhanging part of said mouth, said bottom section having the edge of said mouth extending inwardly, and said handle and inwardly extending edge constituting a funnel for facilitating the placing of liquid in said mouth and between the cup and bottom sections.

2,418,572. ICE CUBE DISPENSING REFRIGERATOR. James E. Brennan, Lakewood, Ohio. Application Sept. 17, 1943, Serial No. 502,787. 9 Claims. (Cl. 62—89.)



7. In a mechanical refrigerator, an open top cabinet enclosing a cold compartment, an ice block forming receptacle permanently incorporated in the cabinet adjacent one side and near the top of said compartment, ice block extractors having parts depending into the receptacle adjacent the walls thereof, electrical heating means in the walls of said receptacle, a circuit for supplying electric current to said heating means, a switch included in the circuit and located adjacent a side of the compartment remote from said receptacle, and a door for closing the open top of the cabinet.

(To Be Continued)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $2.50 per insertion. Limit 50 words.

RATES for all other classifications $5.00 per insertion. Limit 50 words.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

POSITIONS WANTED

BUSINESS CONNECTION—engineer desires partnership or percentage arrangement and organize expansion of established small eastern contractor with contacts (refrigeration, heating, electrical, etc.) into refrigeration and air conditioning field. Excellent references. Contact Stephen Diczok, RICHARDSON & RICHARDSON, INC., 88 Park Avenue, Nutley, N. J. Nutley 2-0265.

SALESMAN—AGE 35. Position wanted as representative for established manufacturer of refrigeration accessories. Wish to contact manufacturers and/or jobbers in the south or southwest. Successful past sales record. At present employed in the commercial engineering department of large refrigeration manufacturer. BOX 2374, Air Conditioning & Refrigeration News.

DESIGN ENGINEER, 34, married, background covers design, sample building, experimentation and production of small commercial and domestic refrigerators. Eight years experience. Specific abilities include design and cabinet structure. Capable and experienced in holding supervisory positions. Can furnish excellent references. BOX 2379, Air Conditioning & Refrigeration News.

REFRIGERATION SERVICE man thoroughly experienced on all SO_2, CH_3Cl, and "Freon" systems commercial and domestic-multiple and sub zero temperatures. Now employed, wishes to change. Preferably in the south east or south west. Have car and tools. BOX 2380, Air Conditioning & Refrigeration News.

SERVICE ENGINEER 5 years commercial, 5 years domestic, all makes. Continuous experience independent companies New York City. Now working, wants position rural or suburban area anywhere can move wife and child. Detail your requirements and terms. Will send honest resume and reference upon request. BOX 2388, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

WANTED—EXPERIENCED refrigeration counterman. Good opportunity for advancement. Apply in own handwriting, stating jobbing and any other experience, education, and starting salary required. Applications will be treated strictly confidential. J. M. OBERC, INC., 904 W. Baltimore, Detroit 2, Mich.

WANTED: EXPERIENCED service manager familiar with heating, air conditioning and commercial refrigeration operation for permanent position with large and well-established distributor. Must be capable of handling and training men. Good salary, fine future, excellent shop facilities and equipment, good working conditions. Reply, SIDLES CONDITIONED AIR COMPANY, Omaha, Nebraska.

WANTED: REFRIGERATION engineer having background of experience in modern dairy and ice cream plant equipment. Independently owned concern with good chance for advancement. Apply in your own handwriting stating qualifications, experience, starting salary, age, and when available. Applications treated with strictest confidence. STURTEVANT DAIRY PRODUCTS CO., Rock Island, Illinois.

WANTED: INSTRUCTORS to teach refrigeration, air conditioning, or sheet metal work. College graduate preferred. Apply in own handwriting, stating jobbing, and other experience, education, and starting salary required. J. CECIL SHARP, Air Conditioning and Refrigeration Department, Utah State Agricultural College, Logan, Utah.

WANTED: FACTORY representative to establish dealers and distributors in the State of Indiana for an old established Eastern manufacturer of farm milk coolers, farm freezers, and commercial refrigeration products. Excellent potential earning possibilities. Reply to BOX 2383, Air Conditioning & Refrigeration News.

SUPERINTENDENT: MIDWESTERN refrigeration school: GI approved; With educational experience and practical experience in the refrigeration field; all replies strictly confidential. Summarize your experience, past earning capacity, and references. BOX 2386, Air Conditioning & Refrigeration News.

WANTED — EXPERIENCED factory-to-dealer representative for high-performance farm and commercial upright freezer now successfully merchandised in Eastern region. Territories open include Indiana, Illinois, Kentucky, Michigan. Consistent advertising and promotional program with leads furnished exclusively. A specialty appliance supplementing other makes, sizes, and designs. BOX 2387, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

MANUFACTURERS' SURPLUS equipment bought up, cabinets, units, expansion valves, controls, all refrigeration products. Give full particulars. Prompt attention given. R & R EQUIPMENT CO., 2724 Third Ave., N.Y.C. 54, N. Y.

EQUIPMENT FOR SALE

MOTORS AND condensing units—available at once—⅛-¼-⅓-½ Universal condensing units with or without motors. Special—six hole ice-cream cabinets with ¼ hp. Copeland units less motors $225. Also beverage coolers, beer equipment, stainless steel reach-in freezers. ALBROD CORP., 319 West 48th St., New York City 19, CI 6-9100.

IMMEDIATE DELIVERY—new air conditioning equipment. Weathermakers complete with motor, "Freon" coil, etc. 2 ton to 25 ton. SWSI, DWDI, and twin centrifugal blowers, propeller fans, heating and cooling coils, evaporative condensers, self-contained air conditioning units, condensing units. CONTROLDTEMP CORP., 236 Butler St., Brooklyn 17, N. Y.

SECTIONAL WALK-IN coolers built to order on short notice. Genuine Fiberglas insulation. Highest grade lumber guaranteed. Beautiful workmanship and finish. Bright chrome hardware. Crated no extra charge. Delivery and insulation service available at reasonable rates within 100 miles of NYC. COOLER KING MFG. CO., 6013—13 Ave., Bklyn. 19, N. Y.

FOR SALE—AC motors ½ to 3 hp. single and 3 phase, list price. Immediate delivery. EDISON COOLING CORP., 310 E. 149th St., Bronx 51, N. Y.

QUALITY BOBTAIL fountains; reach-ins, walk-in boxes—wood, metal; dough retarders; double duty cases—stainless steel, porcelain; dairy, florist, bakery cases; ice cream hardening cabinets; thermopane frozen food cases; milk, sandwich coolers; stainless steel back bars; with machines. Equipment made to special order. FRIGITEMP CORP., 931 Bergen St., Brooklyn 16. MA 2-9093.

STOP CROSLEY terminal leaks—easily and quickly. Use the Holl-Ines cap. Installed in ten minutes. Absolutely no work on the terminal body. A guaranteed sealing device. Be prepared. Have a stock for your car and shop. See your jobber now. Sold all over the country. $5.50 per set. HOLL-INES, Dumont, N. J.

A NEW tool to rework valve plates. Do not delay a job for valve plate replacement. Repair and test it yourself in about 20 minutes. Speed up your service work. Get a Premier self aligning valve grinding kit. Wholesale at $29.75. Distributed by HOLL-INES, Dumont, N. J.

BUSHING TOOLS, $2.00 ea.—Oil ring puller, $3.00 ea. Seal ring puller for Norge, $1.90 ea.—Special Coldspot parts;—Drive couplings, $.28 ea.—Compressor gaskets, $.12 ea.—Seals, $2.25 ea.—Compressor blades, $1.00 ea.—Replacement check valve, $2.50 ea. HOLL-INES, Dumont, N. J.

NEW MOTORS, heavy duty repulsion induction, single phase, 110-220 volts, 60 cycle, available immediately. ½ HP—$40.00, ¾ HP—$53.00, 1 HP—$60.00, 1½ HP—$72.00. 25% deposit required with order. Balance SDBL or COD. KOLD DRAFT COLUMBUS, INC., 334 Marconi Blvd., Columbus 15, Ohio. Main 1583 and Main 3422.

½ HP CONDENSING units—air cooled complete with motor and control. Available immediately. Price—$140.00 less motor and control—$95.00. 25% deposit required with order. Balance SDBL or COD. FOB Columbus, Ohio. KOLD DRAFT COLUMBUS, INC., 334 Marconi Blvd., Columbus 15, Ohio. Main 1583 and Main 3422.

1000 MOTORS, FOR sale, from stock ⅝ hp.—3425 RPM— 3 ph/230 V. (Underrated—easily equal to ¾ hp.) Ballbearing, for vertical or horizontal. Enclosed Fr. ¾ in. shaft. $36 each. This rugged motor cannot burn out. (Glass insulated wire coils.) MODERN SUPPLY CO., 206 Fulton St., New York 7—CO 7-0100.

SECTIONAL WALK-IN coolers, kiln dried fir front, spruce interior. Chrome hardware, metal saddle, finished shellac 4 in. Fiber $1.20 for freezers 6 in. Fiber $1.40 per sq. ft. Cork insulation prices on request. Limited number new refrigeration units coils, etc. available. Send us your requirements. REFRIGERATION SPECIALTIES, INC., 721 Flushing Ave., Brooklyn 6, N. Y.

FLOAT REPLACEMENTS. For replacing defective high side floats on all household units. Regular charging connection, capillary tube setup, internal strainer and exact mounting plate. Part #2000-Westinghouse (4 hole plate), and #2010 (3 hole plate): Part #2020-Gibson Part #2030-General Electric (DR-1 & DR-2). Part #2040-For general replacement (undrilled plate). $6.75 each. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three $6.75 (Part No. 1020). Installation tool $1.65. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

COMPRESSOR EXCHANGE—Unit rebuilding. Over 300 compressors, immediate delivery (on receipt of your old compressor) on 90% of the compressors in the field. And—at half the price of a new one. Prices on request. Also parts & supplies. Wholesale only. SQUARE DEAL SUPPLY CO., 904 N. Illinois, Indianapolis, Indiana.

FOR SALE: One new Acme dry ex water cooler, 8' x 16"—20 ton capacity. THRUST REFRIGERATION COMPANY, 1016 Virginia Street, East, Charleston 29, West Virginia.

3 HP COPELAND W.C. "Freon" units with 3 ph. starters, less motors, new, in factory crates—Price $300.00. With 3 ph. motors—Price $375.00. BOX 2382, Air Conditioning & Refrigeration News.

MUST REDUCE inventory—¼ HP condensing units less motors $45 each. 14 cu. ft. BEV-FOOD refrigerators less condensing unit $225. ½ HP GE condensing units with motors and controls. ¼, ⅓, ½ and ¾ HP refrigerator motors. Also 6-hole ice cream cabinets $135 each, and reach-in refrigerators and freezers. BOX 2389, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

LOW COST automatic fire extinguisher. Exclusive county rights available for the Marvel automatic Kill-Fyr extinguisher. Component parts approved. Easy sales, good profits. Write for descriptive circular and facts from satisfied users. KILL-FYR MANUFACTURING CO., Dept. R-88, Camden, N. J.

BUSINESS OPPORTUNITIES

COMMERCIAL REFRIGERATION business, doing $100,000.00 inventory approximate $15,000.00, service 20 southeastern counties South Dakota and six Minnesota counties. Valuable franchises available. Hundreds of active accounts. Inventory 100% clean, will be sold at invoice cost. Write Harold J. Johnson, JOHNSON'S, INC., Mitchell, South Dakota.

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6/16/47

New Ferro-Therm Installation on West Coast



Edwin Wilson (right), sales manager of the Ferro-Therm division of Eckert Engineering Corp., is shown congratulating Lester Casperson, head of O. Casperson & Sons, on having the first commercial cold storage room in California utilizing Ferro-Therm Steel Insulation. The lightweight door (shown between them) is but 4 in. thick, yet insulated for temperatures as low as 0° F.

• • •

Dairy Products Distributor Is First California Firm To Use Ferro-Therm for Cold Room Insulation

SAN FRANCISCO — First use of Ferro-Therm steel insulation to insulate a commercial cold storage room in California was made recently at the plant of O. Casperson & Sons here, butter and egg distributor, Edwin M. Wilson, sales manager for the Ferro-Therm division of Eckert Engineering Corp. has revealed here recently.

Ferro-Therm steel insulation, manufactured by the American Flange & Mfg. Co., is claimed by Mr. Wilson to save space. He illustrated his point by noting that the 5 ft. by 7 ft. refrigerator door at Casperson's, insulated for 0° F., is only 4 in. thick.

Other features of the product claimed by Mr. Wilson are lightness and ease of handling.

Ferro-Therm is being used in low temperature altitude chambers maintained by the Naval bureau of aeronautics in San Diego and Seattle, Mr. Wilson said.

It is being distributed in the West by Babcock & Jones, Inc. of Beverly Hills, Calif. Eckert Engineering Corp. acts as representative in northern California, Oregon, Washington, and Nevada.

Engineering Achievement Medal Goes to E.C. Raney

COLUMBUS, Ohio—In recognition of his achievements in the field of refrigeration engineering, E. C. Raney, president of Ranco, Inc., was awarded the Lamme Medal at the commencement exercises held June 6 by Ohio State university.



E. C. Raney

The Lamme Medal is awarded each year by the university to an Ohio State alumnus who has distinguished himself by engineering achievement.

Mr. Raney, whose company lays claim to being the world's largest manufacturer of thermostatic controls, received his degree in mechanical and electrical engineering from Ohio State in 1912. He also attended Ohio university at Athens.

Mr. Raney developed the controls which his company now manufactures, as well as the automatic reclosing circuit breaker which it previously produced. With a few friends, he organized the Automatic Reclosing Circuit Breaker Co. in 1913, engaging in the production of circuit breakers used in electrically operated coal mines, as well as in steel mills and on interurban electric railways.

Later, with the development by Mr. Raney of a refrigerator control, the company abandoned the manufacture of circuit breakers.

'Departmentalized' Buyer's Guide Published by Airo

CHICAGO—A new, departmentalized buyer's guide covering parts, tools, supplies, and shop equipment for air conditioning and refrigeration applications has just been issued by Airo Supply Co., mail-order wholesaler here.

Kindred lines are grouped in the 112-page catalog "to make it easy for the customer to compare different lines and select the item he wants," according to L. C. Keely, manager. For example, he said, all tools are listed on adjacent pages and fittings and tubings are shown near controls.

The guide is said to reflect the latest prices quoted by manufacturers. It includes a forward by Mr. Keely, order forms, general information on mail-order buying, descriptions, and specifications.

Storage Plant Approved

DINUBA, Calif. — The Office of Housing Expediter, Divísion of Nonresidential Construction, has issued a permit for construction of a cold storage plant at Dinuba, Calif., for John Sporner, to cost $6,500.

With Food Plentiful, Public Must Be Sold on Need for Locker Space

PORTLAND, Ore.—Some 300 West Coast locker operators were told by industry leaders recently that, with the period of food scarcity over, they can no longer be mere "operators," but must become active merchandisers of their locker storage and other frozen food services.

Gathered at the Pacific Coast Frozen Food Locker Convention here, operators from California, Oregon, and Washington were advised that their plants must now develop permanent patronage on a different and far more competitive basis.

The need to modernize their plants and equipment was emphasized.

J. J. Hoey, secretary of the California Refrigerated Locker Association suggested that locker operators send out letters from time to time reminding their patrons of seasonal foods to store in their lockers.

Next year's convention will be held in Seattle, it was decided.

Locker associations of the three states sponsored the meetings.

THE NEW Streamlined LA CROSSE DRY STORAGE COOLER



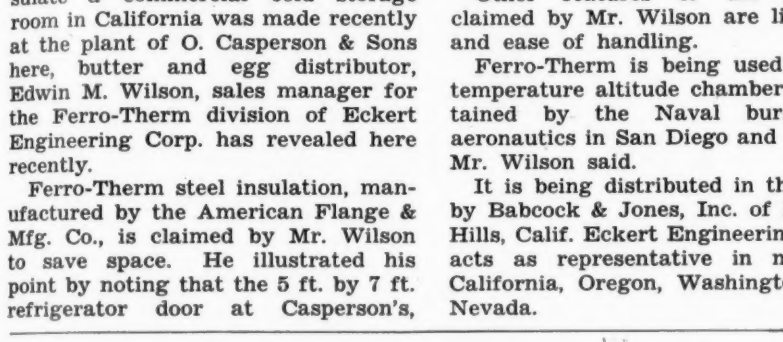
FEATURING THE ROLLBACK 1½" INSULATED LIDS—
Adjustable wire partitions and shelf offers greater capacity—
Sturdily constructed of heavy rust-resisting metal—
Recessed base—High bake finish—Sizes 4-6-8 ft.

LA CROSSE COOLER CO.
2809 LOSEY BLVD. So., LA CROSSE, WISCONSIN
Formerly La Crosse Novelty Box Co.

DISTRICT REPRESENTATIVE

A large, nationally-known manufacturer offers an opportunity of permanence and advancement to a capable sales leader. Products of advanced design and competitively priced—covering the heating, air conditioning and commercial refrigeration fields—are supported by a powerful, nationwide advertising and promotion program. Experience in the major appliance field desirable but not essential. Applicants must know dealer operations, specialty selling and merchandising; be able to help train dealers' sales forces and, above all, possess sound business judgement. This is a real opportunity for a capable, ambitious man. A good salary, traveling expenses, automobile furnished, and complete executive cooperation assured. Write fully stating experience, personal qualifications and salary desired. Accompany with photograph.

Box 2391, Air Conditioning & Refrigeration News



Just Exactly Right..

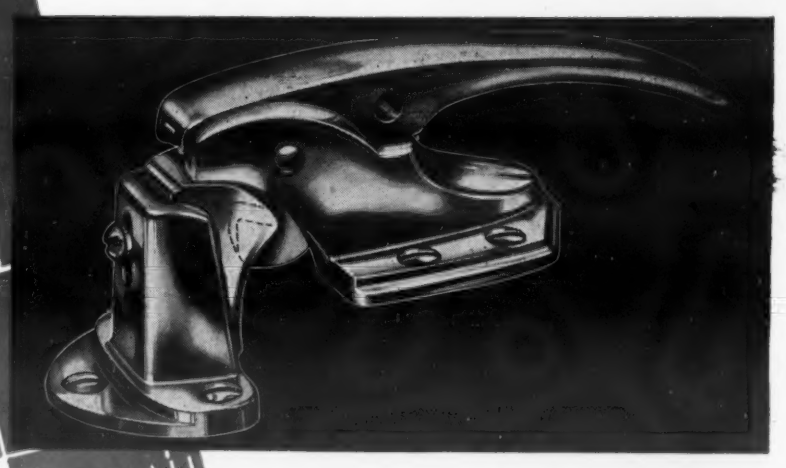
- Capillary tubes engineered to precise flow control for each particular job.
- Wabash patented coiling process gives a larger inside diameter and provides a tube that is hard to plug up or freeze up.
- Wabash exclusive fittings and adapters mean no-soldering, no-fuss installations.

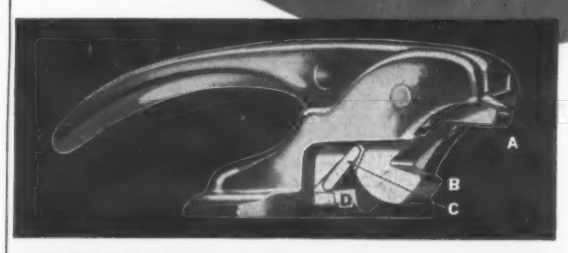
Available for domestic, commercial, or freezer units 1/3 horse power or below.

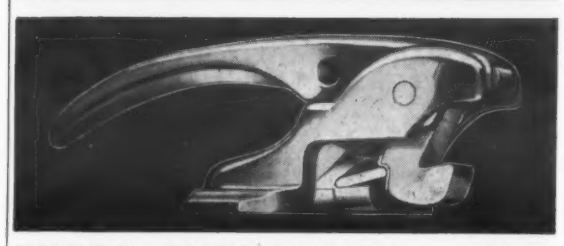
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WABASH MANUFACTURING COMPANY
2642 S. Michigan Ave., Chicago 16, Ill.

NEW STANDARDS of PERFORMANCE ... based on Superior DESIGN and Astute ENGINEERING







EXTRA ENDURANCE . . . FOR DAILY COMMERCIAL ABUSE

Every working part is designed to *cushion* shock. The rugged trigger-latch (A, B) is shaped for a direct blow on the strike, spring-cushioned through an off-center plate (C). The bolt (D) is short and heavy taking all stresses in one direction against a powerful coil spring. Engineered for many years of extra service on your commercial applications!

When it Trips, it GRIPS

It may be quite incidental that this lock incorporates a new, exclusive principle . . . that its action provides the strongest, most positive locking grip ever devised . . . that it operates at the touch of a finger . . . that it's available in a variety of sizes.

You are most interested in the long, trouble-free service it gives . . . in your customer's approval . . . in the credit it reflects upon your product and your company. And you always earn these extra dividends when you specify Grand Rapids Brass Company hardware.

America's Quality Line of COMMERCIAL REFRIGERATOR HARDWARE

Grand Rapids Brass Company
Makers of Dependable Refrigerator Hardware for over 40 Years
Grand Rapids 1, Michigan

Appliance Men Stress Creative Selling In Sessions with Dealers at San Diego

(Concluded from Page 1, Column 3)

farm trade will find that locker renters are excellent prospects for home freezers. Most locker plants have recognized this and are encouraging the sale of home freezers because it means more business for them from a processing angle. Our studies indicate that few farmers will release their lockers when they buy a freezer for their own homes."

The all day and evening Conference opened with a luncheon address by A. E. Holloway, vice president in charge of sales for the San Diego Gas & Electric Co., who urged the assembled electrical appliance dealers and distributors to prepare their organizations for the new selling era ahead.

Price Cutting Not Creative

"Price cutting is not creative selling," Mr. Holloway said in stating that the time had come to return to creative selling. "Creative selling is establishing the desire for ownership of equipment in the minds where such desire does not exist at the present time.

Larry Coen, sales manager of the American Central Co., Connersville, Ind., outlined to the dealers the tremendous possibilities that lie ahead in the sale of steel cabinets and kitchens.

"The packaged kitchen offers many opportunities to the electrical appliance dealer in that it enables him to sell all of the items that go into the most important room in the house . . . the kitchen. The housewife of today has been well educated in the requirements of a kitchen through leading magazines..

"In the 8,000,000 new homes which experts predict will be built during the next 10 years, modern kitchens are a must," he said.

Highlights of the afternoon conference included a "Home Freezer Discussion Panel," featuring Ben Sanderson, western regional manager of Deepfreeze; N. B. Dinkel, western regional manager of Crosley; Ed Barnes, branch manager of Kelvinator, Los Angeles; U. S. Grant of U. S. Grant Supply; W. H. Dial, Weber Showcase & Fixture Co.; Norman Nielson, sales manager of Frigidaire, Los Angeles; and Mr. Stoneback of Blake, Moffitt & Towne.

'Sell Leisure Advantages'

"The American public buys the leisure advantages, not the nuts and bolts. Before we can sell home freezers, we must first sell leisure, use, and economy," said Mr. Sanderson. Ed Barnes urged the dealers to make connections with food suppliers where customers can purchase steaks, game, and other unusual food items that add to the novelty of owning a home freezer.

In referring to the buyers strike in Texas, U. S. Grant stated that

"We've got to sell the public on the idea that they are getting their money's worth now and that there is no real reason for foregoing the enjoyment of owning a home freezer during the next few years just because they hope that prices might go down."

Stocks of Paper Will Help

By carrying stocks of packaging paper, the dealers will perform a genuine service for the customers, not only adding to the sales volume of the sotre, but providing a continuing contact with the customers for years to come, said the Blake, Moffitt and Towne representative.

Thirty two manufacturers' representatives, sales managers, and other Pacific Coast managers of the electrical appliance industry gave short impromptu talks on factory production, deliveries and new items scheduled to appear on the market soon in the "Manufacturer's Panel Discussion" which concluded the afternoon program.

Ray Hahn (Maytag) reported good washing machine production despite critical shortages of materials. Home freezer and Dutch oven production has started, he said.

Dick Page (Thermadore) also reported good deliveries and announced that his firm is now producing built-in ranges. The parts, he said, are shipped as packaged units and can be assembled to make custom-built ranges in custom built kitchens.

To Demonstrate Ironers

Charles Culbert (Pacific Coast manager, Proctor) stated that his firm is planning popular demonstrations of ironers to overcome the fallacy that shirts are difficult to iron.

Hank Marsh (Easy Washer) announced that his company is coming out with a brand new spinner-type washer.

L. P. Shelley (Rise-N-Shine, San Diego) announced that production is underway on a night light which automatically turns on when a person gets out of bed during the night.

George Williams (Maryon-Williams Co.) stated that San Diego has a 17% saturation of ironers compared with a national average of 10%. Ironers offer the dealers one of the biggest markets ahead, he predicted. Conlon's ironer production is being absorbed so fast that washer production has not yet started, Mr. Williams added.

L. A. Peterson, sales manager for the New Home Sewing Machine Co., said that factory production was now better than 100% of prewar. Paul Bradner announced that Westinghouse is now producing an electrical comforter.

Howard Oliphant stated that General Electric is now producing a range with a built-in pressure cooker which, when not in use, can be removed and the heating element lifted to make a fourth burner.

Dealers Must Spend More

Following the evening banquet, Ken Hampton, manager of the Valley Electrical Supply Co., Fresno, warned the dealers that if they wanted to do a profitable business in the years ahead, they will have to increase sales expenses for better advertising, sales training, and salesmen's pay.

In order to do that, he pointed out that dealers would have to curtail other expenses by enforcing proper credit terms, eliminating slow moving items, collecting all claims for damaged items and become familiar with tax regulations in order to take full advantage of all deductions.

Predicts Market of Million

Edmund T. Price, president of the Solar Aircraft Co. of both San Diego and Des Moines, Iowa, predicted that by 1950 San Diego appliance dealers would have a market of nearly one million persons in the San Diego area. Price reminded the audience that ever since 1870, San Diego's population has doubled every 10 years.

In support of his prediction, he pointed to the tremendous growth of San Diego's back country area, the fact that the climate has made the area not only a mecca for tourists but is also largely responsible for San Diego's rank of 23rd in the nation for the richness of its agricultural products, the growing importance of the harbor as a base for the Navy as well as the home of one of nation's richest fishing industries (tuna).

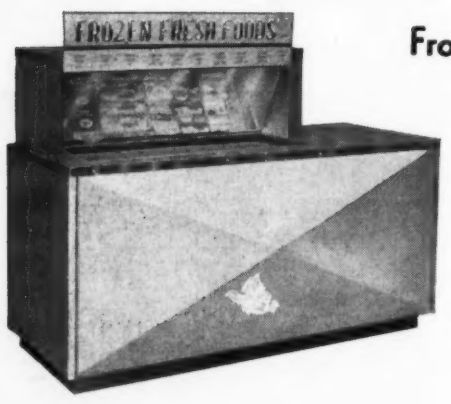
In referring to the vast undeveloped territory of Baja, Calif., he said, "Over the next 25 to 50 years, this frontier should mean that San Diego is the natural shipping and distributing point for the existing as well as the new town and cities to be created. This is a situation unmatched by any other community in the country, because none, to my knowledge, is situated on the threshold of a new frontier, waiting to be developed by men of imagination and vision."

Need Old-Fashioned Selling

In the concluding talk of the evening, "Eve Didn't Buy a Red Apple," Milton Sanders, vice president of the Central Arizona Light and Power Co., stressed the importance of sales training for dealers in the days ahead. The art of selling is as old as Eve, said Sanders, while quoting passages from the first chapter of the Bible.

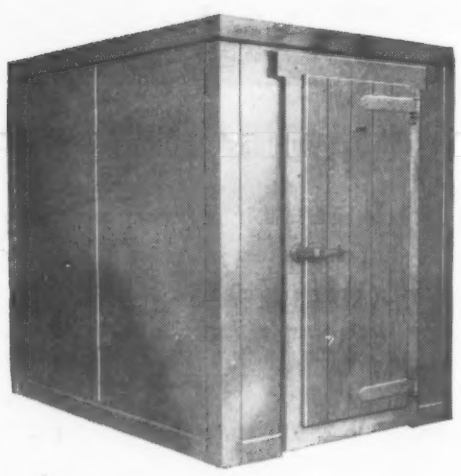
"Even in those days the serpent who sold Eve on eating the apple did so because he was smart enough to show her what the apple would do for her. We're going to have to get back to those same old-fashioned principles if we're going to reap the harvests of the great markets of the future."

ROGERS QUALITY LINE of Refrigeration



Frozen Foods Salesman

Shows them and sells them while maintaining proper temperature. Capacity 11.8 cu. ft. 5-in. Fiberglas insulation. Has heavy duty ¼ H.P. compressor. Main box is 6 ft. by 29½ in., 39 in. high.



Walk-in Cooler

All metal clad, inside and out (photo shows wooden door but new model has door of metal). Shiny and attractive in appearance and easy to keep that way. Built for permanence. Precision construction permits rapid and easy assembling. Two sizes: 6 by 8 feet and 6 by 6 feet, both 7½ high.

Dry Beverage Cooler



39 in. high, 30 in. wide, 6, 8, or 10 ft. long. Lids slide away or lift out. Removable dividers. 8-in. utility shelf.

Rogers refrigeration units are finished in Stainless Steel or polished Aluminum.

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BOX 272-AC DEMOPOLIS, ALA.

FAST FREEZE

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McQuay ice cube makers offer capacity plus convenience

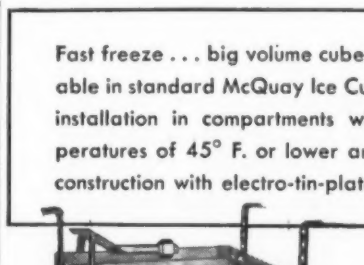
Heavy duty cube freezing for reach-in and back bar installations plus compartment cooling is a one unit job for the McQuay Combination Ice Cube Maker. Fast freezing of cubes in special quick release trays, makes a generous volume of ice conveniently available for peak hour service. Special fin coil panels keep compartment areas chilled.

Efficiently designed for its dual job, the McQuay Combination Ice Cube Maker is constructed of heavy gauge aluminum with rippled aluminum fins hydraulically bonded to electro-tin-plated copper tubing in the fin coil panels. Flat, U-shaped electro-tinned copper loops in the freezing section provide increased area of contact with the tray shelves for more rapid heat transfer and faster freezing. McQuay's exclusive Ripple Fin construction is the secret of the unit's highly efficient compartment cooling performance.

For further information regarding your special needs see your refrigeration wholesaler or write McQuay, Inc., 1607 Broadway Street Northeast, Minneapolis 13, Minnesota.

Representatives in Principal Cities

Fast freeze . . . big volume cube production is also available in standard McQuay Ice Cube Makers designed for installation in compartments where refrigeration temperatures of 45° F. or lower are maintained. Aluminum construction with electro-tin-plated copper tubing.



McQuay

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